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THE

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Indian and European

EDITED BY

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most skilful physician For many and evident reasons prevention must in the long run take precedence over cure

Preventive measures fall conveniently into two classes —those dealing with the physical well-being and resistance of the individual, such as diet, muscular exercise, sleep, fatigue, the use of stimulants and narcotics, and the general efficiency of the bodily functions, and, secondly, those having special reference to environmental conditions or affecting many persons or communities The methods that the individual may adopt to ward off disease and enhance resistance lie within the scope of personal hygiene, those that involve larger or smaller groups of individuals, constitute the province of public hygiene or sanitation

THE ROLE OF PERSONAL HYGIENE

The methods for the furtherance of personal hygiene must be largely educative in character, and it must be recognized that the progress possible in this direction is distinctly limited by inherited constitutional factors The prevention of disease and premature death is in many cases impossible even if the strictest and most efficacious regimen be maintained and if the hostile action of outside agencies be successfully avoided In other words, some organisms carry within themselves the seeds of decay which germinate early and come to fruition in spite of all individual endeavors A congenitally feeble or defective mechanism may be strengthened, but can not be remade In most instances, however, measures of personal hygiene avail powerfully in promoting normal life and happiness and in some degree in preventing premature death I need only mention the high resistance to many infectious diseases possessed by the well-nourished, properly exercised, undrugged individual Improvement in personal hygiene must depend to a great extent on education, must necessarily be slow, and its success in preventing disease be conditioned in large part by the inherited constitution

PUBLIC HYGIENE

Any distinction between personal hygiene and public hygiene can not in the nature of things be an absolute one The stream can not rise higher than its source, the welfare of the group is determined by that of the individuals composing it More and more, too, the concerns of personal hygiene are tending to become problems of public hygiene Bodily cleanliness is essentially a personal matter, it would be an absurdity in the present state of public opinion to legislate for compulsory bathing, and yet the establishment of free public baths is everywhere recognized as an important measure of public sanitation The same thing applies to exercise and the establishment of municipal playgrounds and gymnasia. The principle is perfectly sound Primarily the function of public hygiene is both to avert from the community as a whole the consequences of misdoing, neglect or ignorance on the part of any one, or any number, of its members, and to provide for groups of individuals, conditions as favorable for health and happiness as the most intelligent and far-seeing could demand for themselves Such conditions may not always be those that the least intelligent or most greedy members of the community desire, but from the point of view of public hygiene they are none the less inevitable

Up to the present, measures of sanitation have affected chiefly the infectious diseases This is shown, for example, by the list of the ten leading causes of death in Massachusetts in 1856 and in 1904 (Table 1).

TABLE 1.—THE TEN LEADING REPORTED CAUSES OF D MASSACHUSETTS IN ORDER OF FREQUENCY

1856	1904
Consumption	Heart Disease.
Scarlet Fever	Consumption
Brain Disease.	Pneumonia
Old Age	Diseases of Brain and C
Pneumonia	Diseases of Kidneys
Typhoid Fever	Cancer
Dysentery	Cholera Infantum
Heart Disease	Accidents.
Cholera Infantum	Bronchitis
Diphtheria and Croup	Diarrhea and Cholera I

In 1904 typhoid fever had dropped to thirteenth, d tery to seventeenth and scarlet fever to twenty- place

It is here seen that the diseases that have been placed are largely the infectious diseases It is not sible in all cases to determine the factors that have operative in the decline, and in some cases causes yond our control have perhaps been at work, but doubtedly measures of quarantine, isolation, school

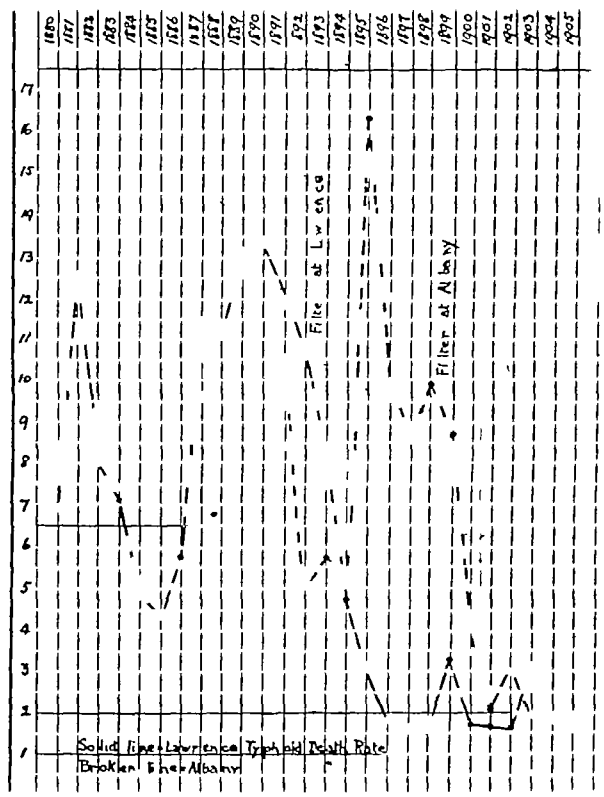


Chart 1.—Typhoid death rates in Albany N Y and La Mass., before and after installation of filters

giene and other protective devices adopted by the com munity have played a part in the shrinking of prevalent infections In some instances the effec methods of sanitation is not to be mistaken One of most remarkable, as indeed one of the best unders examples of the efficacy of sanitary features, is afforde in the influence of improved public water supply to typhoid fever

The improvement that has followed the substitution of a pure water supply for a polluted one in cities lik Lawrence and Albany is unmistakable

It is not my purpose, however, to rehearse the tr umphs of sanitation There is much to be accomplishe before we can legitimately give ourselves the gratifica tion of dwelling on past achievements It seems to m desirable to keep before our minds the present outlook

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these questions A concerted and persistent campaign of education backed by scientific investigation is likely to have greater weight in molding public opinion than the isolated appeals of reformers and philanthropists, however timely and well directed The great measure of success already achieved by the crusade against tuberculosis at least serves to encourage this belief

It is evident, I think, that with the increasing complexity of the social structure, the field of public hygiene will continue for some time to broaden Many matters affecting the physical well-being of society which are now overlooked, ignored or regarded as a necessary part of keeping the pace, will come to be seen in their true light I do not refer now to the improvement of the human race by selection and controlled mating, although the physical possibility of strengthening the human mechanism must be recognized and may one day be a subject for state interference, but to measures more susceptible of immediate application We are still treating, for example, in an amateurish, desultory fashion such important questions as the influence of city dust and smoke on the respiratory tract, the effect on the nervous system of the pounding it receives from city noises and the consequences of racial mingling and amalgamation The waste of life and the maiming of bodies by violence, which has reached so gruesome a pass, especially in this country, is distinctly a preventable evil calling for preventive measures

TABLE 4 —Average Annual Death Rate per 100 000 Population

City	Period.	Homicide	Suicide	Accident.	Total
London	1903-4	1 1	11 2	54 2	66 5
Berlin	1900 5	0 96	29 1	59 4	89 5
New York	1900-5	4 2	22.3	108	134 5
Chicago	1900 5	6 7	22 9	76 2	105 8
Boston	1900-4	3 5	13 7	84 9	102 1

INDUSTRIAL HYGIENE

The time is now ripe for a fuller consideration of the interest that the whole community has in dangerous trades and hazardous occupations The extent to which industrial injuries can be prevented by slight changes in materials and machinery is hardly realized by the general public Strong arguments can be brought to bear in favor of industrial insurance against death and disability from accident, in favor of charging up to an industry the depreciation in men as is the custom with the depreciation in buildings and in machinery The extra cost of a hazardous industry ought, as a business procedure, to be laid on that industry, and manufacturers will unquestionably find the public willing to assent to this view

There are still stronger arguments, economic as well as humanitarian, for preventing or minimizing injury and disease in dangerous trades and occupations It needs no dissertation to prove that it is less expensive as well as more humane for the community to take measures to safeguard machinery rather than to allow accidents to happen and pay the cost, whether legitimately in the form of industrial insurance or, as now, in the support of hospitals and poorhouses and in diminished industrial efficiency The factory inspector of the state of Illinois in a plea for better protection before the state legislature last winter brought out the facts that

It costs 35 cents to take out the raised set screw, bore a hole into the line shaft and set in the sunken set screw And yet we had in Illinois almost 100 deaths last year in factories from the raised set screw We know that it costs $15 to feed a woodshaper The average life of the machine is ten years, and woodworkers will tell you their average loss is a death for each machine every year

In the same connection it was shown that Illinois third greatest industrial state in the Union, has no protecting workers in factories, in workshops or in building trades At this session a bill was passed the protection of structural iron workers on bridge buildings,[5] but similar bills for the protection of occupations were defeated There is in Illinois no providing for ventilation in shops or safeguarding chinery, hatchways and elevator shafts Here pretty definite opening for preventive and protective measures which are reasonably certain to save life, vent disabling injuries and diseases and promote efficiency and well-being of the body politic

THE "POISON WORKERS"

The same thing is true of the trades and manufactures involving more or less direct contact with poisonous stances, like mercury, lead, arsenic and phosphorus Such dangerous industries are controlled in most European countries by elaborate regulations designed to protect the workmen against the peculiar dangers to which they are exposed Twenty-four such industries in which special rules are in force are enumerated in Holland and fifteen in Germany In the United States legal protection is almost lacking, although a great improvement in conditions has been accomplished through the voluntary action of some philanthropic and farsighted manufacturers In certain industries, notably those involving work with lead and phosphorus, the preventive and protective influence of simple hygienic measures is so marked that the duty of society to itself would seem to require that such measures be made obligatory Investigation of the whole question of occupational diseases under American conditions is much needed

EDUCATION IN PUBLIC HYGIENE

If we grant that the collective health and physical soundness of a nation or people are at least as worthy of public concern as the conservation of other natural resources, then the road is clear before us In the present apathetic state of public opinion, as attested not only by the imperfect legal crystallization of our knowledge but by the inadequate material and moral support given by most American communities to public health officials one of the first steps must be educational The clamor of modern life does not make it an easy task to shape intelligent public opinion Many voices are crying aloud in the market place insistently and with great fervor And yet there are indications that the preliminary work of education in public hygiene is taking effect.

The influence attained and the work already accomplished by the national societies before referred to, and especially the wide interest evoked by the Committee of One Hundred of the American Association for the Advancement of Science, to consider methods of establishing a national department or bureau of health are signs not to be mistaken The rapid growth of the Public Health Defense League, organized to combat all forms of quackery, charlatanism and fraud, another instance of increasing public interest. Especially timely is the action of the American Medical Association in recommending the establishment of a Board of Public Instruction empowered to disseminate through the medium of the public press and in other channels authoritative information regarding the causes and pre

5 Last year in the City of Chicago out of a total membership of 1 358 in the Bridge and Structural Iron Workers Union, 156 either lost their lives or were totally or partially disabled.

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a proper evaluation of the work done in this field As one important step better opportunities should be provided in medical schools for the training of men in public hygiene In connection with the engineering schools of large universities or in cooperation with technical schools, courses of study leading to a special degree ought now to be planned by all progressive medical schools Investigation of the broader aspects of disease and disease-prevention should be encouraged, not merely as affecting individuals, but as affecting the masses of mankind Specialists in public hygiene should be supported by a united and organized medical profession and the value of such special service as they can render made unmistakably and authoritatively evident Public opinion is now sensitive on matters affecting the public health and will lend a ready ear to professional advice Now is the time to turn our faces to the investigation of disease on the large scale, to make clear that the prevention of disease is more worthy of consideration than the cure and, foreseeing the inevitable decline of curative medicine, to foster and develop the newer art of sanitation as an integral part of the work of the medical profession

Original Articles

PREGNANCY AS AN ETIOLOGIC FACTOR IN DENTAL DISEASE *

JAMES E POWER, D.M.D
PROVIDENCE, R I

In dealing with this most important phase of the pathology of pregnancy, I wish to state that I understand but little of the causes producing the destructive processes which involve the organs of mastication during this period On the other hand, I believe that possibly it may be of interest to record my experiences and observation of certain conditions existing during the period of gestation, with the hope that they may serve as stimuli to other minds

It is a well recognized fact that the child-bearing process is a natural and physiologic episode in the life of the female It is equally well recognized that in the life of the pregnant woman every day brings forth numerous conditions which have the power of converting physiologic into pathologic conditions, embracing every form of disease from interference with the function of a special organ to the cessation of all function In the former instance, we have disease, in the latter, death either of the embryo or of the mother

Nature does much to fortify herself against all of these dangers, the heart, for example, is said[1] to become hypertrophied to such a degree that its weight is increased about one-fifth, the ventricle or propelling portion being the part affected This expansion of the heart is very probably for the purpose of meeting the extra work required of it during the advancing months of pregnancy Provisions are made, likewise, for the spleen, the liver, the kidneys, and in fact for all the organs in order that they may perform the duties required of them while further changes occur in the respiratory, circulatory, nervous, and digestive systems In view of the fact that these changes take place within a very short period of time, we can understand how easily the resistant capacity of the system may be decreased During the metamorphoses just described, the pregnant woman must digest more food in order to supply the growing organs the embryo and herself, with nourishment, hence a greater supply of blood and an increased activity of the excretory and secretory organs result from these physiologic changes

All of these changes have their relative effect on the conditions of the oral cavity and its appendages To note these, therefore, is one of the obligations which both the dentist and the physician are bound to respect These changes influence the nervous system, and therefore, render the individual peevish, fretful, and careless A form of neurasthenia perhaps causes the individual to become depressed I have repeatedly observed that even women of refinement grow careless, neglectful of their personal appearance and in some cases, almost entirely disregardful of the laws of hygiene during this period when so many changes are taking place, tending naturally to lessen their resistent capacity, and to increase the tendency to disease

Perhaps no part of the body is neglected more than the oral cavity, and in many instances, no part of the body manifests more strikingly the result of this neglect

Since the physician is responsible directly, and the dentist, indirectly, for the salvation of the teeth during the time the pregnant woman is in their charge, their first duty is to impress on the mind of the patient how dependent is the entire system on the cleanliness of the oral cavity It is reasonable to suppose that all persons of average minds, now realize that the conditions necessary for the growth of micro-organisms are heat moisture and the presence of oxygen A moment's reflection causes us to realize that the blood the saliva, and the air we breathe, furnish these requisites, and therefore, predispose to a rapid development of micro-organic life, having the power not only of causing disease in other organs, but also of producing death Scientific investigators have proved this beyond any reasonable doubt, and so it devolves on us as professional men not only to advise and instruct the pregnant woman, but more particularly to insist on a proper recognition of this most important law of nature, namely, that she should have a specially careful regard for the hygiene of her mouth In seems to me that there is no domain in medicine wherein the physician and dentist can cooperate to such mutual advantage as in the treatment of the oral conditions arising during pregnancy

The physician is usually acquainted with the fact that a most important physiologic phenomenon has taken place in the life of the woman at a time when a little advice to the patient is often invaluable Generally, or at least in many cases, the physician is consulted before the patient has formed any of the habits which are characteristic of the later stages of pregnancy He should prepare her, therefore, for the unpleasant conditions which are to follow, should teach her the dangers associated with unclean mouths He should also inform her that the natural degenerative process resulting from her condition, together with her lessened resistent capacity, may cause complete destruction of the teeth, which will have not only a dangerous effect on herself but on the condition and health of her offspring

In this instance, if in no other, the special knowledge and skill of the dentist should be solicited, and the patient placed in his charge The dentist should make a thorough examination, and should restore all the diseased teeth to a normal condition, so far as this is pos-

* Read in the Section on Stomatology of the American Medical Association at the Fifty eighth Annual Session held at Atlantic City June 1907

1 American Text Book of Obstetrics, p 154.

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these principles, many times I extract the diseased tooth without any fear of causing an abortion. A local anesthetic is almost always used to destroy the action of the sensory nerve in the region of the diseased tooth. The cavity is washed with warm water, and a pellet of cotton saturated with a paste composed of camphor, phenol and orthoform is placed in the socket of the extracted tooth. If this method is followed all danger is reduced to a minimum. In my opinion the cases where an anesthetic (local preferred) is administered, together with the improved technic of modern extraction, the conditions which are conducive to abortion, namely, pain and shock, are so reduced that the element of danger is but a remote possibility.

Of course, I do not advise the extraction of all diseased or aching teeth at this time, but only of those diseased teeth whose treatment would entail so much suffering that the life of the embryo and possibly that of the mother would be sacrificed. While I regard a tooth as a very important organ I also feel that its value deteriorates in proportion to the degree in which it affects the health or life of the individual. On account of the physiologic changes which are taking place during the time corresponding to the menstrual period, it is considered safer to avoid the extraction of the teeth then, as there is a greater liability of causing abortion during this period.

Great care should be exercised by the diagnostician in determining the origin of any dental pain from which the patient may be suffering. The nervous phenomenon, known as reflex action, may be instrumental in confusing our diagnosis and likewise our treatment. Since pain is something which cannot be seen we are obliged to rely on the manifestations of the sometimes capricious nervous system. Many times a diseased condition will manifest itself by pain in parts remote from the seat of lesion. Therefore, disease in any organ may make itself manifest by pain in a tooth, whose treatment or extraction at this time will complicate rather than simplify the treatment. Garretson reports a case wherein a carious, aching tooth was extracted for the relief of pain. The desired result was not accomplished until an ulceration on the cervix of the uterus was treated and cured.

There is no doubt in my mind that the work which is now going on in the study of the chemistry of the saliva, will facilitate the solution of this problem later, but if this treatment which is within the reach of all, both rich and poor, and which has been so instrumental in the salvation of many teeth in my practice, may be suggested to pregnant women, with possibly a saving of their teeth, and an improving of the health of their offspring, the object of this brief record of experience will have found its attainment.

DISCUSSION

Dr. V. A. Latham, Chicago, looked on Dr. Power's paper as a further argument in favor of a broader education of the dentist. What, she asked, is the use of the dentist studying obstetrics? There is, perhaps, no use of the dentist studying the manipulative or operative part of obstetrics, but the elementary course should be studied. The peculiar reflexes which come into the histology and pathology of pregnancy ought to be taught in every dental school. Dr. Latham agreed with Dr. Power that there is no subject so difficult to handle as the obstetric part of dental practice. She believes that the women are to blame in many instances because they are careless or neglectful, or, perhaps diffident or shy. It is only when necessity compels the average woman to go to a dentist that she will do so, and then comes the difficulty. A little surgical operation such as the killing of a pulp or opening an abscessed tooth must be done, and that is an operation that the average woman dreads so much in her daily life, and how much more must she dread it when she is so much more hypersensitive. Dr. Latham asked Dr. Power whether he preferred local anesthesia to the use of nitrous oxid gas. Dr. Latham considers the use of gas preferable, because if the patient has been trained to know that it is not dangerous she would, perhaps, be less worried. The mental effect would be better than if a local anesthetic is used unless the patient has had it before. Dr. Latham's experience is that sometimes there is a little more danger of sloughing in spite of every precaution and intense hyperemia and pain. Dr. Latham asked Dr. Power whether he finds that there is more caries present in cases where there is profuse salivation. Dr. Latham recently had one such case where everything failed to relieve the woman of most profuse salivation during her pregnancies until her diet was regulated.

Dr. S. G. Jackson, Vineland, N. J., referred to the belief held by many that the teeth should not receive operative treatment during pregnancy. This she considers a great mistake. At this period of a woman's life the teeth are, in many cases, especially susceptible to the ravages of decay, neuralgia, odontalgia and alveolar abscess. Any one of these conditions would be a greater tax on the nervous system than a judicious treatment which would relieve the patient without hazard, and would prevent the loss of one or more teeth for every child. Dr. Jackson emphasized the importance of careful attention to the oral cavity from the very beginning of pregnancy.

Dr. M. I. Schamberg, New York City, thought that the trouble has been that the medical man and the dentist have been too willing to view pregnancy as an absolutely physiologic process instead of keeping in mind that it becomes, in a measure, a pathologic process when the system of the mother is unable to keep up with the extra work that is put on it. The old saying "a tooth for a child" has been the accepted theory on which physicians have worked, and they have been willing to sacrifice the tooth for the child. They viewed it as a condition of affairs that could not readily be overcome. Dr. Schamberg felt that many of these troubles could be averted if on the first evidence of the cessation of menstruation the prospective mother were sent to the dentist for a preliminary examination of the mouth, so as to render the environment of that mouth absolutely clean and healthy. He views the destruction of the teeth as not alone caused by the mouth environment, but also as being due to a sort of dentomalacia, similar to osteomalacia, which would not be the case in a normal pregnancy, but which becomes an abnormal condition owing to the fact that the mother is unable to supply a sufficient quantity of lime salts for the nutrition of the child. If it were possible, in a scientific manner to reach some conclusion as to what is essential in the building up of a mother during this period, Dr. Schamberg believes that many of the dental troubles which now manifest themselves could be overcome. Dr. Schamberg has noticed in the mouths of many women during the period of pregnancy the peculiar spontaneous appearance of white spots, a tooth deterioration that has been so much of a bother in the past that it has been ignored. It is not alone one tooth, he said, that the pregnant woman complains of as paining her during her pregnancy, and that drives her at the last critical moment to seek to have it extracted, it is not a mere cavity at the apex, but there is a destruction of the tooth structure that causes the eventual loss, not of one tooth for the child, but very often a set of teeth is absolutely destroyed during this period. A mother, during her child bearing period, has reached the critical period of her life, and from that time on there will be tooth deterioration unless the greatest effort is made, not at the time when the pain exists, but immediately prior to it, by anticipation of the child bearing period at the first disappearance of menstruation, to see that the mouth is in proper condition and is kept so.

Dr. Alice M. Steeves, Boston, Mass., said that in a paper read in this Section seven years ago, dwelling on the reasons why a dentist should receive a medical education, one of the practical things she mentioned that a dentist should understand was the obstetric side of the profession. Physicians

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In order of importance the general features rank as follows

1 Persistent lassitude, attributed by the patient to his legs, but in truth based on accelerated tempo of the heart's action, with or without excess of central propulsion over arterial tension

2 Progressive and persistent anemia, unaccounted for by other invasions of infection, inflammatory processes, central or peripheral nervous disturbances or, last but not least, stubborn stomachic or intestinal indigestion This latter element should always be removed before a diagnosis is ventured on

3 Progressive and persistent emaciation demands the same exclusions as recorded above Frequent weighings alone are to be relied on, not the opinion of the patient nor that of his friends The accepted general division of tuberculous and other forms of pulmonary consumption is into "open" and "closed" cases An open case is one in which the products are open to and communicate with the atmosphere Here evacuation and not "walling in" is imperatively indicated, as will be shown presently

A closed case is one not accessible to the atmospheric air Tuberculous pleurisy and enlarged glands may serve as examples

For prognostic and therapeutic purposes, both open and closed cases will be found in the organism to exist as two very distinct and separate pathologic conditions, namely

(*a*) Conditions inherent in the lymphatic channels As a distributing center of tuberculous infection the bunches of tracheobronchial glands rank first. Richest in lymph vessels of all serous membranes is the pleura —"the dumping ground of the lymphatic system"

(*b*) Tuberculous or streptococcic infection engrafted on unresolved remnants of previous acute disease—croupous and catarrhal pneumonia, pleurisy, etc

The products of both pathologic conditions are pus or connective tissue or both

The difference between ancient methods and the modern scheme of simplification is best shown by placing them in sharp contrast. But I find that enumeration of old terms would fill a moderately sized monthly magazine (take the twenty kinds of râles as an instance) and hence proceed to present the modern method in the order practiced in making a diagnosis

AUSCULTATION

Auscultation recognizes only "tonality" and "pitch" as representing the sounds (or melody, if you prefer) heard in inspiration and expiration The mechanical movements—the technical execution — are represented by "rhythm" and "tempo"

Tonality or the Keynotes—Of these there are only two in the lung—pulmonary and bronchial, or, in other words, vesicular and tubular These are the fundamental tones

Pitch—This differs from musical pitch by being relative Tracheal breathing is our standard, as being the only fixed standard—inspiration and expiration as nearly as possible of the same pitch In auscultation it represents the highest type of pitch, and all others are gauged by it as being "lowered" or "raised" in the locality heard Three degrees of either are sufficient for correct diagnosis, as, for example Pitch lowered in first, second or third degree Pitch is never an adjunct of vesicular or tubular breathing Brought about by the sum total of respiration, it is an entirely independent factor

Rhythm—Rhythm is the regular recurrence of accents, the characteristic of regular succession It is punctuation The rhythm of breathing in the normal condition of the lung is a regular succession of marked accents It consists, as we all know, of inspiration, pause and expiration—what in music would be called a three-part rhythm The rhythm of respiration is a continuous movement (legato), while that of the heart is interrupted (staccato) A change from the continued to an interrupted rhythm marks one of the earliest beginnings of a pathologic condition in the lung, both in infections and inflammations

Tempo—Tempo is nothing more or less than the speed of the rhythm The normal tempo of breathing is from sixteen to eighteen respirations to the minute—about one to every four seconds

RALES

The importance attached to râles or rhonchi is another sacred tradition Transudations and secretions accompanying functional or organic disease of the lung—whether serum, mucus, pus or blood— are not the pathologic condition itself, nor do they give us any definite clue to the same Their expectoration or absorption still leaves the condition to be ascertained by tone, pitch, rhythm and tempo — four designations, as against twenty-seven of the old nomenclature

PERCUSSION

Percussion recognizes resonance only Four degrees of resonance—excessive resonance or reduced (deficient) resonance—are ample to describe existing conditions There is no such thing as pitch in percussion, other than applies to the chest walls

INSPECTION

Inspect for nothing but the anatomic sufficiency of the thorax, which sufficiency should bear some relation to the height of the patient, but not very much Judge only by an abnormally narrow thorax or an equally abnormally wide one The next step suggests itself By a few deep inspirations (never mind the tape line and the number of inches) ascertain the physiologic sufficiency Remember these facts A narrow thorax may be capable of unlooked-for expansion, while a large barrel-shaped one may scarcely move at all—the so-called fixed thorax What we are concerned with is the elasticity of the costal cartilages

PALPATION

Palpation is only useful for ascertaining the amplitude of the diaphragmatic excursions—the phrenic wave so-called Remember that lateral, not anteroposterior expansion, is the gauge of sufficient respiration

MAXIMS TO BE BORNE IN MIND

Five general maxims are to be kept in mind They are

1 Raised pitch in auscultation, coupled to reduced resonance, denotes condensation

2 Lowered pitch, coupled to exaggerated resonance, denotes expansion

3 Both condensation and expansion of lung tissue lead up to the loss of elasticity Temporary loss is a phase of healing processes Permanent loss is one of the terminal phases of disease

4 The degree of percussion resonance establishes the exact value of the respiratory pitch obtained by auscul-

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SIMULTANEOUS SPHYGMOMANOMETRIC PRESSURES AS MODIFIED BY POSTURES *

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CHICAGO

The study of the circulation of the blood has ever been one of the most interesting subjects of investigation since laboratory methods have been instituted in physiologic work. More recently the importance of studying the pressure of the blood in the human subjects has been appreciated by both physiologists and clinicians. It is hardly to be expected, however, that anything like a complete review of the literature of this important subject can be presented here, since, as Dr. Erlanger[1] says: "It would be impossible to read merely the titles of the important contributions within the time allotted."

Stephen Hales is credited with having made the first study of blood pressure in 1733. His experiments, performed on a mare, were crude and would scarcely meet the approval of the "antivivisectionists." The essential principles of his work, however, are still utilized in our experiments in the physiologic laboratory, with the addition of the mercury manometer and solutions that prevent the clotting of the blood. The names of Poisseuille, Ludwig and others are associated with the mercury manometer and its improvements, though these gentlemen did their work nearly one hundred years later than Hales.[2]

The vast volume of work has been done and reported within the last fifteen years. The names of von Frey, von Recklinghausen, Potain, Marey, Oliver, Hill, Riva-Rocci and many others need only to be mentioned to recall their instruments and their work. Besides these, every year adds scores of names of those who report some further study. So, after all this vast amount of work, comes the question: "What has been accomplished and what is yet to be done?"

Some writers have concluded[3] that "On the whole, the fruits are scanty in comparison with the time spent." The Committee on Research for the Division of Surgery, Harvard Medical School,[4] did not arrive at any very encouraging conclusions as regards the utility of the Riva-Rocci apparatus in surgical patients. However, it can not be denied that a considerable amount of accurate information has been derived from recent researches. The work of Cushing, Crile, Erlanger and Janeway surely will not yield "scanty fruits." The excellent volume on the subject by Janeway[5] is doubtless in the hands of every physiologist and clinician who contemplates investigation along this line.

The arteries of the upper extremity are generally selected for the measurement of blood pressure, more especially the brachial with palpation of the radial. Convenience and uniformity evidently account for the present criterion, that the brachial should be used for measurement, and the compression applied at the level of the heart. But we find frequent queries in the literature concerning the pressure in other parts of the arterial tree. Kellner[6] cites von Frey to the effect that if the study of the pulse is to be more than a mere pastime it should be applied to several parts at once, investigating the pulse in various regions, if possible, with different apparatus and simultaneously.

In a review of the subject of blood pressure, Cowan[7] brings out some interesting points. He cites Potain's statement that results vary in the different arteries in the same individual and that a slight difference may often be found even in symmetrically corresponding vessels, as the two brachials of the same person. Cowan states further that "pressure in the radial artery can not be considered to represent blood pressure throughout the whole body." On the other hand, "Oliver has found that blood pressure does not appreciably vary if influence of gravity is excluded, and v. Recklinghausen states that pressure estimated simultaneously in upper arm and thigh by modified Riva-Rocci apparatus gives approximately the same figures."

Gravity, which Oliver is represented as assigning as the cause for differences in pressure, of course, is only partially responsible. Goldwater[8] says: "Gravity is not the sole factor to be here considered. The cardiovascular system is more than a series of inert containers having unchangeable dimensions. A change in position, whether from lying to standing, from sitting to standing or from lying to sitting, is associated with variations in muscular and mental tone which produce reflex alterations in tension through the great nerve centers." And many others could be quoted to the same effect, in fact, it is accepted now as a very apparent fact.

It was, then, the suggestion made by so many that there is a difference in the different arteries, that led to the present investigation. v. Recklinghausen,[9] who has done so much of real worth, reports a comparison between the pressure in the thigh and in the arm. Apparently he has made these determinations on only one individual and in only one position, the supine. His results for this position are characteristic, and I give his table as reported:

TABLE 1

Simultaneous measurement of pressure on the upper arm and thigh. Subject of Experiment H., aged 60, height 167 cm. (5 ft. 6 in.), weight 62 kg. (136.4 pounds). Measurements taken in the forenoon, recumbent. Pressure expressed in cm. of water.

No.	Pulse	Radial Artery	Artery of Foot.	Difference
1	Returns	138	138	0
2.	Returns	132	132	0
3	Disappears	148	147	—1
4	Disappears	142	142	0
5	Returns	131	135	4
6	Returns	130	129	—1
7	Returns	144	144	0
8	Returns	142	145	3

The relation of posture to blood pressure was also reported by the same experimenter:

TABLE 2 (125)

Influence of the position of the body on the blood pressure. The blood pressure in cm. of water. Subjects of Experiment H. and W.

Position	H.	W.
Standing	116	132
Sitting	123	143
Lying	125	145
Lying without a pillow	110	

* Read in the Section on Pathology and Physiology of the American Medical Association, at the Fifty-eighth Annual Session held at Atlantic City, June 1907.

* From the Department of Physiology, Northwestern University Medical School.

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2. Blood Pressure and Pulse Rate, THE JOURNAL A. M. A., Oct. 1, 1904.

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4. Report of the Committee, Blood Pressure Observations in Surgical Cases, Boston Med. and Surg. Jour., 1904, cf. 255. Also article in footnote 1, p. 1343.

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8. Med. News, May 24, 1903, 967.

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the mercury Janeway[25] depends on "the lowest point of maximum oscillation" for his determination of the diastolic pressure His manometers perhaps are more sensitive to slight pulsation than ours However, it is noticeable in a mercury column that is not oscillating whatever as it rises, that at a certain point it suddenly pulsates with every systole of the heart, or that in a slowly sinking column these pulsations suddenly cease It is also noticeable that at the point of marked oscillation in a slowly rising column there comes suddenly a diminution of the pulse In every case we could not secure well-marked oscillation, but if the band is adjusted tightly and pressure not increased nor diminished too rapidly the mercury column generally indicates the change that is palpable in the pulse Furthermore, a marked oscillation was noticed in a majority of the cases just before reaching the point of obliteration of the pulse Between the points of maximum and minimum pressure the column of mercury did not show in many instances any pulsation

Therefore, as I believe that the pulse is obliterated when a pressure is exerted equal to the systolic pressure in the vessel, I also believe that the palpable diminution of the amplitude of the pulse occurs when a pressure is exerted equal to the diastolic pressure, and that in most cases we have a check for our observations in the oscillations of the mercury column

I have found it much easier to take my first readings as the pressure rises, and thus follow a thready pulse to obliteration, rather than to notice the point of return After having experimented with over ninety subjects in taking the blood pressure, I feel that I must insist on taking the readings in the manner described If the pulse is watched closely and the pressure applied slowly, the diminution in the pulse is very apparent and can be read It is often so marked that in illustrating this point to students who were assisting me they invariably said "There, it is gone," and I have no doubt that this point has been recorded by observers as being the systolic pressure It is in covering this point that I have found the double atomizer bulb to be very valuable After the point of diastolic pressure had been approximately determined the compression was removed and then again slowly raised to within 5 mm of the former reading, the second bulb (the one in net) was then used to raise the pressure to the exact point of diastolic pressure This could be determined most accurately, as the second bulb is not valved and compression is controlled for 10 mm to 15 mm entirely by pressure of the hand on the bulb, thus by raising the pressure a few millimeters above and then allowing it to sink slowly below, the change in the character of the pulse is easily noticeable We have also the check, before mentioned of the oscillations of the mercury The exact point of obliteration of the pulse is determined in like manner

It is evident, I think, that, in making a reading in this fashion we have the arteries in their natural state of distensibility and contractility On the other hand, when pressure is applied considerably in excess of the point of obliteration, and readings are made depending on the changes apparent while the pulse is slowly returning, the diastolic pressure or point where the artery has just recovered its normal state will be read too low An inert elastic rubber tubing compressed to obliteration of its lumen, would be somewhat sluggish in regaining its elasticity as pressure was removed How much more sluggish, then, would be the action of an artery having not only elastic walls but also contracting muscles that must be fatigued by this unusual pressure on them?

DISCUSSION OF FINDINGS

Factors of Blood Pressure—The formula employed by Stephens in his study of the changes of blood pressure due to posture is simple and comprehensive P varies as Hs x Hr x R Janeway,[26] in his discussion of the factors of blood pressure, names "(a) The energy of the heart, (b) the peripheral resistance, (c) the elasticity of artery walls, (d) the volume of the circulating blood" It will be readily seen that the first three factors named can be classed either under "heart strength" (Hs) or "resistance" (R) The last-named factor, "the volume of the circulating blood" throughout the entire body is believed by Janeway to be of less importance physiologically than clinically However, the rush of blood to any one region is a most important factor Janeway's classification of the factors for blood pressure of an individual is for "any given moment," and so does not include "heart rate" (Hr) This important factor bears a definite relation to the other two However, let us consider this point later The most important factor, R, is in itself somewhat complex It covers both "the peripheral resistance" and "the elasticity of the artery walls"

What, then, would be the value of this factor in two different vessels, such as the brachial and the femoral, compared simultaneously? In quadrupeds the arterial supply of the anterior limb is about the same as that of the posterior, so far as the character of the vessels is concerned In man, however, there surely is an appreciable difference The brachial is a moderate-sized vessel, given off near the heart, while the larger femoral artery and its terminations is the farthest from the heart The smaller vessel in a smaller limb would have a less amount of muscle fiber and connective tissue in its walls and less capacity in its lumen and, therefore, should be somewhat more readily compressed than the vessel which must carry more blood Then, in the lower extremity, there is a proportionately greater venous back pressure to overcome In the larger limb there must also be a much larger capillary area, an additional factor in resistance All these factors have their influence without reference to posture, but if, from the spine, where the circulating stream is all practically on a level, the position be changed to the erect, then the hydrostatic pressure becomes an important factor It acts most at the lowest level below the heart The back pressure in the veins is increased from valve to valve and makes the resistance back through the capillaries greater, while at the same time gravity assists the contracting vessel wall, and the ventricle itself, in forcing the stream through the arteries Another factor that is undoubtedly of much importance in regulating resistance, and in that way the blood pressure of the entire body, is the circulatory system of the splanchnic area Probably the heart rate itself is controlled through the stimulation of the sympathetic nervous system in this exceedingly vascular area We might naturally suppose that any local change of this sort would be more manifest in the pressure in the thigh than in the arm

The Influence of Posture Standing—By referring to the table of median values, it is seen that in this posture the lowest pressure is in the arm and the highest in

25 Clinical Study of Blood Pressure page 92.

26 Clinical Study of Blood Pressure pp 11 28

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accordance with von Recklinghausen's statement that the pressure is the same. A consultation of the table of data will show that had I taken the readings of one person only, as did v. Recklinghausen, I might have reported that the pressure was the same in the arm and the thigh, in the supine, or that it was 20 mm. higher in the thigh, or even that it was lower. In other words, in attempting to reconcile the conditions found in an individual to the standard set by the average, individuality must be considered as a factor. I have found in comparing the pressures in the arm and in the thigh that the height of the individual and the size of limbs are two ever-present factors.

Stephens gives 68.7 as the pulse rate for this posture in comparison with 86 for the erect and 82 for the sitting postures. The heart is not called on to work so fast in this position in an effort to maintain a balance of the flow of blood to the extremities.

Trendelenburg.—In this posture, the balance is tipping in the opposite direction from the first one recorded, and the records show opposite conditions. There is a slight increase in pressure in the arm and a decrease in the thigh. The tendency is for the blood to gravitate to the upper part of the body. The average heart rate, according to Stephens, is 65.8, a trifle slower than for the supine.

From these data we are able to formulate rules regarding the effect of posture on the pressure in the upper and lower extremities. It is evident that in the arm or at the level of the heart the pressure increases, as it decreases in the lower limb, from the erect to the head-down posture, also that the increase in the arm and the decrease in the thigh are slightly more for the systolic than for the diastolic pressure. Thus the difference between the systolic and the diastolic pressure gradually increases for the different positions, from the erect to the Trendelenburg in the arm, and at the same time the difference decreases in the lower limb.

This difference between systolic and diastolic pressure is called by Erlanger and others the "pulse pressure." Strassburger[2] divides this difference, between the maximum and minimum pressure, by the maximum to obtain his *"Blutdruck quotient."* This somewhat arbitrary method of procedure does not seem to be used extensively. I am not able to formulate any law concerning the effect of posture on the pressure quotient that will apply for the individual case.

Erlanger,[1] however, asserts that the product of "pulse pressure" by pulse rate remains approximately the same in different postures. This I have found to be true, using Stephens' average pulse rate and multiplying them by the pulse pressures of the upper extremity. It is obvious that this rule holds only for the arm or at the level of the heart. Apply this fact to the formula for blood pressure, assuming the pulse pressure to be heart strength, we have Hs x Hr = a constant. Then, since P equals (Hs x Hr) x R, and the product of the first two factors is a constant, P varies as R. The peripheral resistance, with its elements of vessel wall action, hydrostatic pressure and volume of blood, is the most important factor in determining blood pressure.

DISCUSSION OF INDIVIDUAL CASES

In studying the blood pressure of each individual, many interesting features were noticed. I can not mention more than a few of them, as each reading shows peculiar to the individual. I have mentioned the effect of height and the size of the limbs. The thirty-fourth subject (second series) was the tallest man in the class,

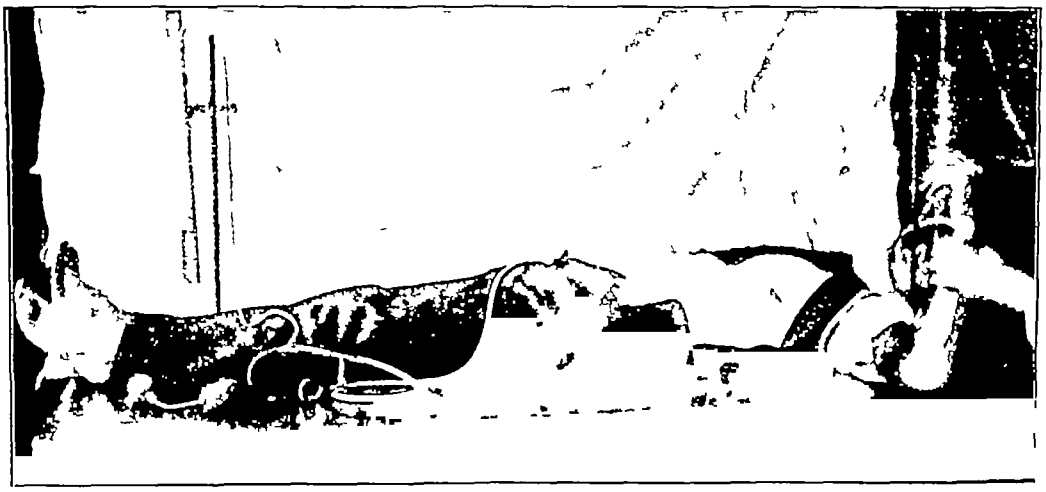


Fig. 8.—The supine posture.

but not the largest limbed. He is a habitual tobacco user and has a rather low pressure. The change in pulse pressure in the arm is typical. His pulse was especially noteworthy. While the systolic pressure in the arm changed from 102 mm. in the erect to 120 mm. in the head-down, the pulse was 112 for the erect, 82 for the sitting, 68 for the supine and 68 for the Trendelenburg postures. Surely, this is example enough of the futility of recording the pulse rate without also noting the posture. Many of the men used tobacco more or less, and in some the blood pressure was found to be low, with marked changes in pulse, as in the one just mentioned.

The former "high school athletes" furnished interesting material. No. 9 had been a bicycle racer from 15 years of age until he went "stale," and we found a hypertrophied heart, completely compensated, and a high blood pressure, affected greatly by posture. Note the pulse pressure in the arm, 36 mm., 50 mm., 54 mm., 60 mm. Could one ask for a clearer picture of a hypertrophied left ventricle pouring a large quantity of blood into the aorta? A strange difficulty presented itself in

2. Ztschr. f. klin. Med., 1904, liv, 387-394.

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OF

"THE INDIAN MEDICAL GAZETTE"

FOR THE YEAR 1922

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A CASE OF HAIR BALL IN THE STOMACH *

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The following case is interesting on account of its comparative rarity and on account of the fact that a mass completely filling the entire stomach, and causing distension much beyond its normal capacity, could exist for years, creating no gastric disturbances

Patient—M. H., female under 10 years of age, of North Adams, Mass., was sent by Dr E E Russel She was a seven months infant and weighed 3 pounds at birth The child was removed instrumentally on account of puerperal convulsions in mother and was breast fed.

History—Whooping cough and measles, at eighth year, both light attacks Always a moderately nervous child A squint of left eye was corrected by glasses No convulsions Always a good sleeper Appetite good, food well digested and patient well nourished School attendance began between six and seven years of age, was bright in her studies, active on her feet, always ready for her meals and never complained of any discomfort in the abdomen She began picking at carpets and woolly materials and swallowing the pieces when she was a very young child—before she commenced to walk She developed an early desire to pick her hair and swallow it, she was almost completely bald from this habit, and her mother noticed small masses of hair in her stools at odd times for many years The history of the case during her entire life time until the illness immediately preceding operation was absolutely uneventful

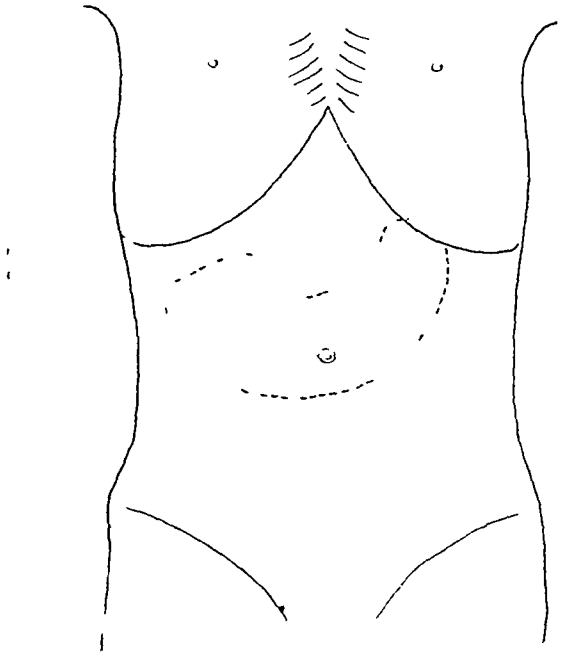


Fig 1—Diagram showing relative position of stomach

Present Illness—She was taken ill May 14, 1907, with nausea and more or less vomiting Pain in the epigastrium followed the vomiting which was so severe that Dr E E Russel, the family physician was sent for He found a mass in the upper abdomen, sausage shaped, which he thought might be impacted feces A brisk cathartic and high enema was followed by a copious purge which contained a small bundle of hair At his next visit the mass was even more distinct and answered in every detail the outline of the stomach This, taken with the past habits of the child, and the fact that masses of hair had appeared in the movements from time to time, led him to make a diagnosis of a probable hair ball in the stomach

Examination—Examination at Troy Hospital, May 20, 1907, showed a well nourished child of good musculature, well developed and full blooded The heart and lungs were both normal Pulse rate was not accelerated and there was no increased temperature On inspection a well defined mass was seen in the epigastrium, corresponding to the outline of the stomach, somewhat movable on inspiration and expiration On palpation the mass had rather a doughy feel and an indistinct fine crackling was elicited There was moderate gastroptosis The stomach extended in its long axis from the outer border of the left rectus muscle at its costal attachment to well beyond the outer side of the right rectus, with its most dependent part somewhat below the level of the umbilicus (Fig 1) The shape and outline approached very nearly a semi circle. The introduction of a stomach tube was accomplished without difficulty until it was blocked by the tumor, at the cardiac end of the stomach With some coaxing it passed along sufficiently to introduce a few ounces of fluid, and by continued repeating and syphoning off, sixteen ounces were introduced at one time The fluid returned clear but contained a moderate amount of mucus This was repeated several times before operation With the introduction of the fluid the stomach became more prominent Under anesthesia the tumor was easily movable and its entire outline readily demonstrated The fine crackling (similar to rolling a bundle of hair between the fingers) was evident and strongly corroborative of the composition of the mass

Operation—An incision was made through the right rectus muscle, splitting its sheath anteriorly and posteriorly The cardiac end of the tumor was presented in the line of incision and after walling off the cavity thoroughly an incision in the anterior wall of the stomach sufficient to permit of the engagement of the mass its delivery was readily affected It proved to be a bundle of hair as diagnosticated, was a perfect mold of the stomach—extending in its long axis from the cardiac orifice through the pylorus into the upper part of the duodenum The pyloric end was conical and projected into the duodenum about 1¼ inches The hair ball, from its peculiar shape, (its great curvature measuring 13 inches and its circumference 7 inches) caused more elongation than dilatation of the stomach It was made up of hair of varying lengths, absolutely black, and densely packed (Fig 2)

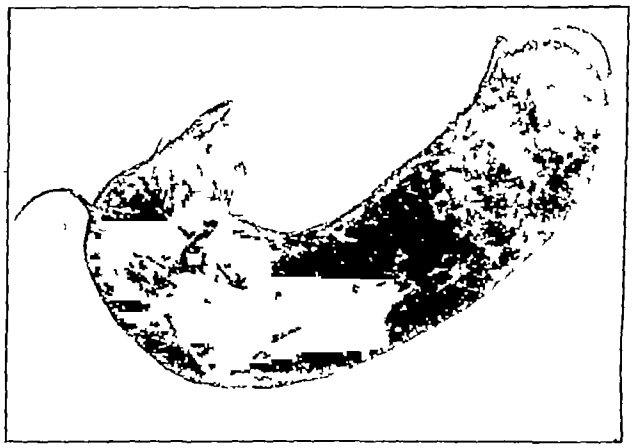


Fig 2—The hair tumor removed from stomach 1/3 size

The gastric mucosa was highly irritated, but there were no definite areas of ulceration The incision was closed by means of mattress sutures of fine silk, and the abdomen closed without drainage

The patient was discharged from this hospital on the twelfth day after operation completely recovered

It has been known for a long time that concretions may develop within the stomach, giving rise to an abdominal tumor These concretions are made up of

* Read before the Third District Branch New York State Medical Society Albany N Y

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William Finder[10] reported a case occurring in the practice of the late William S Cooper

History—The patient was suffering great pain, intensified on the slightest movement She was much emaciated, abdominal walls exceedingly thin A tumor was distinctly seen and felt in the upper abdomen On palpation the mass was hard Was unable to take nourishment, and there were constant unsuccessful efforts at vomiting The diagnosis of probable cancer was made and she died 10 or 12 days after this examination from exhaustion

Autopsy—An autopsy was made 40 hours after death and two masses of hair were found in the stomach, the combined weight being 16 ounces There were two deep ulcers in the stomach which were nearly perforated. The specimens are now in the Pathologic Museum of the College of Physicians and Surgeons, New York

It would seem, so far as I can learn, that in only two of the cases was the identity of the tumor properly recognized before operation 1, J Knowsley Thornton's, in whose patient hair was found in the evacuations, and together with the previous habits of the patient, led up to a correct diagnosis 2, Stelzner[11] gives the credit for a correct diagnosis to his knowledge of Schoenborn's case In the other cases the diagnosis was cleared up on the operating table or postmortem

The differentiation between a foreign body of this nature in the stomach and malignant disease should not be particularly difficult if one would take the trouble to ascertain a careful history The early age at which this occurs, the slow growth of the tumor, the good health of the patient, independent of a mass which can be seen and felt, the absence of pain in manipulation and its physical characteristics are usually sufficient to settle the question Femick of London reports a case in which very obstinate dyspepsia occurred in a young lady who was bald on both sides of her head from constant pulling and swallowing of her hair Cessation of the practice was followed by gradual improvement. He suggests the importance of careful inquiry regarding the habits and occupation of young adults whenever a painless tumor is found in the stomach or intestines, and to bear in mind the possibility of a concretion The tendency to evade questions and throw one off the track regarding the pernicious habits must be carefully borne in mind [12]

10 Trans. New York State Med Assn 1886

11 Centrbl f. Chir 1896 xxxi.

12 The following are additional references to hair tumors
d'Hautville (M.) Jour Méd Chir, Paris 1813 Hair tumor found at autopsy
Ritchie Edin Monthly Jour 1849 ix. Female, aged 21 hair tumor found at autopsy weight 21 oz.
Pollock Proc. Path. Soc. London 1852 Girl died at 18 hair mass found in stomach and duodenum.
May Jr (G.) Trans. Chir Soc. London, 1855 Hair tumor found at autopsy
Gull (W.) Trans Chir Soc. London 1871
Swain Lancet April 1895 Successful gastrostomy diagnosis cleared up at operation
Schulten Centrbl f Chir 1896 lii Successful gastrostomy, diagnosis made at operation
Allen (W. L.) THE JOURNAL A M A., Feb 15 1896 Exploratory laparotomy hair ball successfully removed
Schopf Wien med. Bl 1900 also Med. Record, April 21 1900 Successful operation at which time diagnosis was made

Scrofulodermata—N E Aronstam, in *Central States Medical Monitor*, states that scrofulodermata are very difficult to cure It would seem that at times a cure may be apparently effected, when it breaks out again in renewed vehemence Especially is this the case in scrofulous or tuberculous glands of the neck If external applications and the internal administration of cod liver oil and iron iodid does not avail, we must have recourse to curettement of the glands with subsequent cauterization Their total extirpation should not be attempted, for fear of dissemination of the tuberculous process constitutionally and the subsequent infection of more vital organs

POLIOENCEPHALITIS SUPERIOR,

ITS CAUSATION, CLINICAL COURSE AND TERMINATION, WITH A REPORT OF SIX CASES *

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NEW YORK

Inflammation of the gray matter, the parenchyma, as it were, of the central nervous system constitutes the anatomical basis of some of the most sharply defined clinical pictures that physicians encounter For instance, when it involves the anterior horns of the spinal cord the symptoms that result are few and are very easily interpreted The same may be said of the symptoms that follow involvement of the gray matter of the oblongata, although the clinical picture may not be so simple because of the great variety of functional endowment which this small part of the central nervous system has

Many of the diseases dependent on inflammation or other acute pathologic process in the gray matter of the central nervous system have had a suitable place in medical literature for a very long time Others, such as acute hemorrhagic encephalitis, are recent additions, and much still remains to be learned concerning their causation, course and termination The disease to which we desire to make a contribution, viz, that known as poliocencephalitis superior (inferior ophthalmoplegia, or superior bulbar paralysis,) has been recognized only during the past twenty-five years, having been first described by Wernicke in 1881 He based the description and the successful endeavor to establish the disease as a clinical entity on three cases in which, after death a termination quickly reached, acute hemorrhagic and inflammatory destruction was found in the gray matter around the third ventricle The symptoms which these patients presented were chiefly ocular palsies, staggering gait, optic neuritis and an associated delirium, with agitation resembling that of delirium tremens As each one of the patients was alcoholic, Wernicke stated that alcoholism was the most potent factor in the cause of the disease, but he did not attempt to maintain that it was the only cause He was also impressed with the rapidity with which the disease pursued its course and reached a fatal termination

In consequence of Wernicke's teaching the dependence of the disease on alcoholic intoxication and its fatal termination were generally accepted by the profession That the disease might occur in two or three stages was demonstrated by the cases recorded by Uhthoff, Salomonsohn, Wolfe and others, while the cases reported by Thompson, Werner, Boedecker and Herrnheiser showed that it is not necessarily fatal

It is now generally believed that the morbid condition constituting the anatomic basis of the disease is not unlike that constituting the pathologic process in various other inflammations of the gray matter throughout the central nervous system In other words, the anatomic basis of acute, hemorrhagic, non-purulent encephalitis may be practically similar to that of acute superior poliocencephalitis, and that the different course and termination of the latter is conditioned particularly by the location of the disease and by the proximity of important structures which may become secondarily disordered, as well as by structural changes in remote parts of the body, brought about by the protracted indulgence in the use of the substance which was the most potent

* A preliminary report on some of these cases was read before the American Ophthalmological Society June 1906

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and sleeplessness, although they may come most abruptly, the eye-muscle paralysis being very sudden The ophthalmoplegia, usually spoken of as exterior because it affects only the extrinsic muscles of the eye, may, however, exceptionally be manifest by paralysis of the ciliary muscle and the sphincter of the iris In the severe cases *ophthalmoscopic examination reveals an optic neuritis*, the paralysis of the external eye muscles, the frequent partial ptosis, and the peculiar whimpering, pathetic facial expression which the patient develops, constituting a very typical clinical picture The mental symptoms are usually those of an active delirium, resembling that of alcoholism, and likewise the ataxia of speech and of gait is not unlike that of the acute inebriation Occasionally the mental symptoms are quite like those of Korsakow's syndrome, with disorientation, spurious reminiscence, active fabrication, particularly following suggestion, and easily provoked mental confusion This feature of these cases has recently been commented on by a number of writers [2]

The cases that we report herewith are illustrative both in their clinical histories and in the findings of the necropsy of one of them of the various points that we have mentioned regarding the etiology and clinical manifestations of the disease Our cases show that the disease terminates in recovery much more frequently than is generally taught Spiehlmeyer[3] says that only those cases which have shown three cardinal symptoms, including grave affection of the sensorium, delirium or somnolence, should be included, and our cases show these symptoms He maintains that the majority of patients that are classified as recovered keep certain mental symptoms, which he calls chronic delirium, and this should make us hesitate to classify them as cured. But our negro woman, for instance, did not have any chronic delirium during the months she was in the hospital under the constant observation of one of us Her case we regard as an important contribution to the literature, because it shows that cases of polioencephalitis developing from alcohol may recover In this respect it corroborates Boedeker,[4] who reports the case of a university professor who had a typical attack of polioencephalitis superior due to the intemperate use of alcohol, who made a complete recovery and resumed his professional duties

Case 1.—In the winter of 1904 one of us (W A H) saw, with Dr Alexander Lambert, a man of 28, weakened by alcoholic excesses, who was attacked suddenly by great ataxia of the legs, a low, muttering delirium, squint, and a gradual increasing ptosis on each side. Ten days after the onset of the attack there was incomplete ptosis on each side and an inability to turn the eyes more than 1 cm. in any direction The pupils, however, were of medium size and responsive, and accommodation was preserved The optic discs were slightly blurred Three days later he died This fatal case of bilateral ophthalmoplegia externa, with ataxia of the legs and delirium, seemed to be a typical case of acute alcoholic polioencephalitis superior, as described by Wernicke, which oculists recognize as the condition described by von Graefe in 1856, of complete paralysis of all the extrinsic muscles of each eye, with preserved function of the intrinsic muscles—a condition whose cause always remained inexplicable to von Graefe, for at the autopsy made on one of his patients the expected basal tumor was not found

Case 2.—M. J., a negress, aged 45, with evidence of late syphilis and a record of wood alcohol coma four years before, with a transitory left paralytic squint, was admitted to the New York Hospital, Sept 25, 1905, in the service of Dr Lewis A Conner Two days before she felt queer, and her legs became so weak that she could not stand She had diplopia, and she talked in an excited and rambling manner There was no vertigo or headache The vascular tension was high and the arteries were hard Ten days after the onset of the attack one of us (W A H) found that she had complete loss of mobility inward in each eye, slight limitation of mobility outward in each eye, and excessive vertical nystagmus like twitching whenever the eyes were directed up or down There was no ptosis and the pupils were responsive to light, though slightly narrow Accommodation, interior of the eyes and field were normal There was no disturbance of sensation, no facial paralysis, no bulbar symptoms, such as difficulty in speech or deglutition The knee jerks were exaggerated and there was a continued evening temperature of about 100 degrees F

Two weeks after the first examination and twenty four days after the onset of the attack, the condition had improved so that each eye could be turned in half way to the caruncle, mobility outward was still slightly limited, and there was still pronounced nystagmus in looking up or down The fever and delirium continued The ocular conditions improved slowly, and two months after the onset the mobility of the eyes was normal again The gait gradually lost its ataxic character and the mental condition steadily improved She was transferred to the service of one of us at the City Hospital, where she remained upward of six months that her recovery might be attested. Repeated examination failed to show any physical or mental symptoms She worked about the ward until April 10, 1906, when she had what was apparently an apoplectic attack The necropsy showed a hemorrhage from rupture of an aneurism of one anterior cerebral artery The aneurism, which probably existed a considerable length of time, produced no symptoms so far as we were able to make out The examination of the brain was made under the direction of Dr C B Dunlap at the Pathological Institute of the New York State Hospitals

Gross Examination.—On both frontal poles the pia is hemorrhagic, and at the left tip the cortex also over a small area is dark gray and specked with fine hemorrhages The pia of the convexity is not otherwise remarkable, except for slight milkiness The surface vessels are filled with blood without marked injection of the finer branches An occasional atheromatous spot is visible. No gross lesions are seen on the convexity, except those mentioned on the frontal poles The basal vessels are very much thickened and show decided atheromatous changes A small ruptured aneurismal dilatation is found at the junction of the anterior cerebral and the anterior communicating arteries

The pons is moderately widened and somewhat flattened The third nerves are fairly preserved The second nerves are of fair size, and nothing unusual was noticed in any of the others that were present

The brain was cut by dividing the stem just in front of the pons, by a cut which passed through both pulvinars Nothing remarkable was seen on this cut The midbrain was then removed for imbedding by a second cut about 4 mm behind the exit of the fourth nerves This showed three small hemorrhages in the tegmentum, and one in the pons (Fig 1, 1) The midbrain was then split horizontally for imbedding, as shown in the illustration, and the horizontal sections presented extensive tegmental hemorrhages at the sites indicated in the diagrams Blocks A and B were imbedded for general histologic stains Block C was put into Müller's fluid for study of the nerve roots Slices at intervals of 4 mm were made backward from the second cut shown in the illustrations, and the first two showed hemorrhages in the tegmentum or pons similar to those described The last cut (through the auditory facial abducens segment) passed behind the hemorrhagic area (Fig 1, 4)

Microscopic Examination.—All the hemorrhages appear slightly larger in the photographs than in the actual specimens owing to discoloration of tissues about them They are firm, dark, do not crumble when cut, and are manifestly recent

2 Raimann Neurolog. Centribl 1902 p 976 and Boedeker Arch f Psychol., vol. xl.
3 Centribl f. Nervenheilk. u. Psychiatrie November 1904
4 Arch. f Psychiatrie vol xl.

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Oct. 2, 1906 Marked improvement Had been treated with electricity Slight nystagmus in all extreme directions of gaze Left eye, slight limitation of mobility inward, no ptosis Pupils 3 5 mm , round, responsive No facial paralysis. Corrected vision normal. Knee-jerks exaggerated Fields and fundi normal No Romberg symptom, gait good. No symptoms of disseminated sclerosis

CASE 6—S S, Hebrew, hat frame maker, was referred from the nervous department of the Vanderbilt Clinic to the eye department, June 19, 1907 His father and mother were living and healthy, and he had four brothers and two sisters, all in good health He had never had syphilis, was not alcoholic, and had had no recent illness

The onset of the present attack was about May 25 1907, when he vomited four or five times a day without preceding nausea and without reference to taking food This vomiting ceased after a week About that time, he says, although his memory is poor and his speech is somewhat rambling, he became dizzy when he walked, but was not conscious of seeing double He found, then that he could not turn the eyes to the right and that he had partially lost control of the muscles of the right half of the face

When the eyes were examined the acuteness of vision, accommodation, pupillary reaction, fields, and interior were found to be normal The right eye had lost its mobility inward and outward and could be moved upward and downward only with excessive nystagmoid twitchings The left eye could not be turned inward, and its rotation outward, upward and downward was accomplished only with marked nystagmoid twitchings There was no ptosis The pupils were 4 mm each in diameter, round, and promptly responsive to light and in convergence

General physical examination revealed increased arterial tension with hardening of the vessels and accentuated second sound of the heart There was marked ataxia of the legs causing great difficulty in walking, but there was no muscular weakness The knee jerks were increased, as were all the reflexes of the upper extremities and the abdominal and cremasteric reflexes There was no ankle clonus or Babinski's symptom The afternoon temperature was 99 2 F There was paralysis of the right half of the face, all branches of the seventh nerve being involved There was no difficulty with speech or deglutition There were no anesthesias The mental state was confused.

Sept 17, 1907 The patient, who had not returned for treatment and had continued his work without interruption with one eye covered, came to the clinic for examination in response to a note He stated that all of his symptoms had passed off within two weeks after the first examination made three months before At present all the cranial nerves are normal No reflexes are increased. There is no ataxia or diplopia, and he feels well There is marked arterial sclerosis There are no evidences of disseminated sclerosis

This, then, was a case of acute poliocencephalitis with mental confusion, ataxia, increased temperature and paresis of all the muscles supplied by the third nerves, except the levators of the upper lids, the sphincters of the irides and the muscles of accommodation. With this there was paresis of the external rectus on one side, and complete paralysis of the external rectus and all the muscles supplied by the facial nerve on the other side The symptoms passed off entirely in five weeks without treatment.

These cases show the great variability of the clinical course of the disease, the first case ending fatally in a few days, the second case, a very typical example of the disease due to wood alcohol ending in recovery, the third a most chronic one, having existed for at least seventeen years, the fifth and sixth cases ending in recovery and the fourth case, one of subacute variety, ending in partial recovery Case 2, the negress, had no symptoms of the aneurism until a few days before her death, when she complained of vertigo and fell She had had syphilis, the common antecedent of intracranial aneurism, and to this the disease of the blood vessels was due

The advisability of reporting the histories of patients who have external ophthalmoplegia, more or less transitory, terminating in recovery, in order that we may gain a wider knowledge of superior poliocencephalitis and its clinical course, is obvious

---

A REPORT OF ONE HUNDRED CONSECUTIVE PERINEAL PROSTATECTOMIES WITHOUT A DEATH

WITH REMARKS ON THE GENERAL DECREASE IN THE MORTALITY OF PROSTATIC OPERATIONS IN RECENT YEARS

HUGH H YOUNG, M D
Associate Professor of Genitourinary Surgery Johns Hopkins University
BALTIMORE

It was only a few years ago that prostatectomy was considered one of the dangerous operations in surgery, but in recent years remarkable advances have been made in the treatment of cases of prostatic hypertrophy

Writing in 1900 Fuller said "The mortality attached to prostatectomy at the hands of surgeons skilled in that particular is at the present time in the neighborhood of 15 per cent to 18 per cent." Within four years, however the mortality rate had been decidedly lessened and Watson[1] was able to collect from the literature 243 cases of suprapubic prostatectomy with 11 3 per cent mortality, 530 cases of perineal prostatectomy with 6 2 per cent. mortality, and 1,086 cases treated by the Bottini operation with 6 3 per cent mortality

Escat[2] in 1904 collected 382 cases of perineal prostatectomy with a mortality of 11 per cent and 164 cases of suprapubic prostatectomy with a mortality of 18 per cent, but in the same year Proust's[3] figures were practically the same as Watson's, 813 cases of perineal prostatectomy with a mortality of 7 per cent and 244 cases of suprapubic prostatectomy with a mortality of 12 per cent.

Last year Tenney and Chase[4] were able to collect 716 cases of perineal prostatectomy with a mortality of 7 6 per cent and 396 cases of suprapubic prostatectomy with a mortality of 9 8 per cent.

During 1906 there appeared an extensive report by Tuffier,[5] showing 1,192 cases of perineal prostatectomy with a mortality of 6 6 per cent

The statistics of the Bottini operation and its improvement in recent years are best shown by the work of Freudenberg,[6] who, in 1907, reported 152 cases, with a mortality of 7 per cent., divided as follows

Cases	Good results.	Failure	Deaths.	Per Cent
1 to 50	38 (76 %)	6 = 12 %	6	12
51 to 100	44 (88 %)	3 = 6 %	3	6
101 to 152	47 (90 4 %)	3 = 5 8 %	2	3 8

The statistics of the mortality of the cases treated by systematic catheterization is given as follows

	Cases	Deaths	Per Cent Mortality
Rovsing	126	10	7 1
Casper	51	3	5 8
Watson	30	3	10

1 Annals of Surgery, 1904
2. Annales des Malad des Org. Genitourin 1904 p 1637
3 Annales des Malad des Org Genitourin. 1904 p 1697
4 JOURNAL A. M A. May 12 1906
5 Fifteenth International Congress of Medicine 1906
6 Freudenberg Wiener Klinik, 1907

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in studying the gravity of the operation of perineal prostatectomy The ages were as follows

Under 50 years of age	6
Between 50 and 59	20
Between 60 and 69	40
Between 70 and 74	18
Between 75 and 79	17
Over 80	2
Total	103

In ten of these cases vesical calculi were present and at least in 75 per cent a severe vesical infection Three had pyonephrosis Eight patients were very sick when the operation was performed, and two had apoplexy In six cases the bladder was greatly distended, showing over 1,000 c c residual urine Many had slight symptoms of poor renal function, and six were markedly uremic Arteriosclerosis was common, but in five cases it was severe In nine cases cardiac murmurs of marked degree were present, and in eight cases the heart was enlarged Severe pulmonary emphysema was present in two cases In one case pulmonary tuberculosis was present, both lungs being markedly involved A vesical calculus was present in this case and caused so much pain that operative relief was necessary The prostate was removed and then the stone was extracted The convalescence was extremely satisfactory, the patient leaving the hospital in less than three weeks.

The operation was performed within a few days after seeing the patient in nearly all cases, and I have now come to the conclusion that preliminary treatment is rarely helpful Renal infection is best treated by good vesical drainage (besides the usual internal remedies), and this is best obtained after removal of the prostate through the perineum Even cases in which the bladder is greatly distended by chronic residual urine of large amount—1,000 c c or more—do not usually require a protracted period of preliminary catheterization, but do well after immediate operation In such cases every care should be taken to prevent renal suppression by the administration of large amounts of water by mouth before the operation, and by infusion, and enemata afterward if necessary

In several cases the patient was so sick that physicians assured the family that death would surely result if operation were undertaken I mention these facts to show that there has been no selection of cases No patient has been sent away because he was too weak, and I do not remember having relegated a single patient to the habitual use of a catheter during the past two years

Since the list of cases without a fatality has approached the hundred mark, several very decrepit old men, varying between 75 and 82 years of age, and with alarming cardiac and renal complications, have applied for treatment, and it was difficult indeed not to decide that prostatectomy was contraindicated Among the last ten patients in this list of 103 cases there were several in whom my associates (who had become interested in the outcome of the 100 cases) predicted that they could not stand the operation, but I am glad to report that all of these 103 patients have gone home

Among these 103 cases there has not been a single recto-urethral fistula, and only seven cases of epididymitis, all of which resolved without operative treatment. The perineal fistulas have healed generally within two weeks and several as early as seven or eight days, and I know of but three which still persist. All of these are minute, pin-point openings, through which a drop or two of urine escapes during urination, at other times they are perfectly dry, and the fistula causes no discomfort Incontinence of urine is present in but two cases, in both of which the patients are suffering from locomotor ataxia A slight weakness of the sphincter has persisted for a time in several cases, but has usually completely disappeared within two or three months Generally a necessity of voiding quickly when the desire to urinate comes on is the chief complaint.

I am not prepared to give an accurate tabulation of the exact status of all of these patients now, but I can say that I know that all have been relieved by the operation, that not a single case has to use a catheter, and I believe that almost all of them can empty the bladder completely A careful analytical study of 145 cases which I published last year[9] showed only four cases out of 145, in which the obstruction to urination had not been completely removed I believe, however, that all such results are the fault of the operator and not the operation, that if the work is thoroughly and carefully done there will never be any failure to remove the obstruction completely I heartily agree with Mr Frever, who says that he believes that incurable atony of the bladder muscle is practically never encountered If the obstruction is completely removed the bladder will empty itself in almost every case, barring perhaps a few cases in which great over-distension of the bladder was present before operation, in which cases a small residual urine may persist. This may be due, however, to vesical sacculation

As to the preservation of the sexual powers, I may again refer to the paper above mentioned, which showed that in the large per cent. of cases the sexual powers were not interfered with, and that in five cases in which erections have been absent for a long period before operation there was complete restoration of the sexual powers after removal of the prostatic lobes This I believe was probably due to the removal of pressure upon the verumontanum and ejaculatory ducts

The fact that the ejaculatory ducts, the vesical sphincter and the external sphincter can be preserved intact in almost every case has been demonstrated now in over 200 cases A careful examination of the specimens removed has shown no evidence of the presence of an ejaculatory duct in more than two or three cases, and in all of these the operator was conscious of cutting too close to the well known location of these ducts So confident am I of the preservation of these structures that I do not hesitate to perform a similar operation on cases of severe chronic prostatitis

The improvement in the mortality rate in recent years and the absence of a fatality in the last 103 cases has been due not only to the simplification of the technic, the use of instruments suited to the diameters of this region, and the careful determination of the exact conditions present by previous cystoscopic examination, but also a great simplification of the postoperative treatment In the early cases the gauze and tube drains were not removed for several days, and the patient remained in bed for a week or more As a result perineal fistulas were slow in healing, and the patient often was considerably weakened by the confinement During the past two years it has been the rule to remove the gauze packs on the morning after the operation and the tubes in the afternoon, and on the next day the patient has usually been placed in a wheel chair and carried out of doors This has been the rule with even quite sick patients, and it is remarkable how much they have benefited by being up

9 Johns Hopkins Hospital Reports, 1906 vol. xiv

Original Articles.

THE ROLE OF CATTLE IN THE EPIDEMIOLOGY OF MALARIA

By A. B FRY,

LIEUTENANT-COLONEL, I M S

THE editorial note in the September number of the *Indian Medical Gazette* on the rôle played by cattle in the prevention of malaria refers to a subject which is of the greatest importance in India, where cattle are commonly housed in close association with human dwellings The observations of Drs Rouband and Leger have frequently been noted by observers in other parts of the world

Drs Edmond and Etienne Sergent (Annales de l Institut Pasteur) reported from Algeria

"Le jour, l' endroit ou il est le plus facile de capturer des anophéles adultes est la porcherie sur un espace d'un metre carre environ, nous avons vu des centaines d' anophéles commes piques sur le fond blanc des toiles d'araignée Une des causes de la predilection des anophéles pour less porcheries nous parait tenir a la chaleur considerable que degage le porc dans l'espace restreint ou il est tenu enferme"

Also—

'Nous insistons sur la predilection des anopheles maculipennis adultes pour les coins sombres des ecuries Ces anophelines piquent d'ailleurs les animaux domestiques"

[The following is a free translation of the above passages —

"In daytime the place where it is easiest to catch adult anopheles mosquitoes is the pig stye on a surface of about a square yard we have seen hundreds of anopheles which looked like thorns against the white background of spiders' webs

One of the causes of the preference shown by the anopheles for pig styes appears to us to be the heat engendered by the pig in the narrow space in which he is enclosed"

"We emphasized the preference of anopheles maculipennis for dark corners of stables These anopheles are in the habit of biting domestic animals"—Ed]

In the report of the Malaria Expedition to West Africa in 1899, Ross and Annet state that the barracks at Wilberforce swarmed with female anophelines and, out of 109 insects examined, parasites were detected in 27 They further make a note that there were absolutely no vertebrates other than human beings within or in proximity to the barracks Cattle, dogs, cats, bats, and monkeys were absent while, owing to the buildings having been newly erected, there were even no sparrows or lizards

The Royal Society's Commission to Lagos reports[1] that the sporozoit rate in mosquitoes in the railway camps was 25 per cent at Aro and over 50 per cent at Loko Meji These anophelines were all caught in native dwelling huts and Major Christophers tells me that cattle were not a common feature in West African villages nor in these camps

In comparison with these figures the parasite infection rate in Bengal, which I estimated by the dissection of many hundred anophelines to be about 0 2 per cent was extraordinarily low, and I formed a theory then that the vast majority of anophelines never fed on human beings at all

In my second report[2] I wrote that "The daytime resting place of anophelines in Bengal is the cowshed and the low mosquito infection rate which we found in Bengal may be explained by the fact that most of the mosquitoes which were dissected by us were not caught in sleeping rooms, where it was always very difficult to find specimens Cowhouses are packed with animals at night, and the number of anophelines found in them increases in direct proportion to warmth and darkness The sleeping apartments of houses in Bengal are generally very clean and well kept Though the cowhouses in the same compound may swarm with anophelines, it is exceptional to find a single specimen in a cookhouse or sleeping apartment As the cattle are penned in these houses at sunset, it is natural to suppose that the majority of anophelines have no desire to go abroad but feed chiefly on the cattle It is only those wishing to lay eggs that need go outside, and it is probably these insects and those newly hatched that feed on human beings"

Ross' mathematical treatment of the epidemiology of malaria is well known[3] He has published a formula including all the known factors influencing rise and fall of epidemic malaria which includes one factor b, the proportion of mosquitoes which succeed in biting human beings

He has shown that, making certain assumptions the truth of which has not been questioned $b^2\ s\ a\ i\ (1-m)\ m\ p$ will be the number of new infection in a unit of time and that if r be the recovery rate, the condition for static malaria is $b^2\ s\ a\ i\ (1-m)=r$ In these expressions a is the rate of anophelines per person, b the proportion which succeed in biting, s the proportion which succeed in maturing and becoming infective, i the proportion of humans which are gamete carriers, m the malaria rate in human subjects and p the population

m, The malaria rate in human beings, is influenced by all the factors s, a, i and b, but variations in the biting factor b are of more importance than variations in s, a or i, since the square of the former and only the first power of the latter are involved in the equation

The presence of cattle must certainly influence the factor b Major Christophers in a letter has kindly pointed out that close association with cattle does not always prevent a human epidemic In the Punjab epidemic of 1908 the cattle zone of Amritsar city was one of the worst epidemic areas I do not consider that this destroys my theory It is quite understandable that the presence of cattle may act as a two-

tinct associations" Finally, we can conveniently put the last two classes together as "superficial" in contrast to the associations by meaning, which might be called "deep' ones Distraction of attention tends to produce superficial associations

The association of ideas takes time, distraction of attention makes the time longer It also makes us liable to forget what we have said

Suppose, now, to "flax" the person experimented on associates "candle," there is no direct connection between the two, but "flax" and "wax" have similar sounds and "wax—candle" is a natural association The association of "flax—candle" was thus an indirect one through the word "wax" of which the person did not think consciously The association "Cafhr—breakfast" seems unexplainable until the intermediate unconscious link "coffee" is assumed We thus have ideas that influence our associations, although they do not appear to the mind of the person experimented on. This leads us to ask Can we get information concerning our subconscious life, its thoughts and emotions, by experimental methods?

Dr Jung has devised a most brilliant method of doing this, which I will endeavor to illustrate to you I have a set of twenty-five words printed on a blank, which I place on the table before me I then explain to the subject or patient that I wish to test his mental activity, and that when I call out a word he is to say quickly what thing he thought of first "For example," I say, "when I call out 'hand,' what did you first think of?" Often he replies, "I did not think of anything" Then I repeat the trial till he feels at ease and understands what he is to do Sometimes he replies "hand," and says that he merely thought of a hand But if you ask him "Whose hand?" you will find that he was thinking of somebody's hand, that is, a particular hand, you explain that in such a case he is to state what hand he thought of Some patients will reply with whole sentences instead of a word, do not disturb them—this is a characteristic feature of certain diseases (e g, epilepsy) Still other patients will try to define the words you call out, do not worry about it—this occurs regularly with imbeciles

As soon as the patient feels at ease and answers readily I take a timer (stop watch) with split seconds (i e, indicating fifths of a second) in the left hand and proceed to call off the words on the blank As I call off "hat" I set the watch going, as the person answers I stop it In this way the whole list of twenty-five words is run through (Jung uses a list of one hundred) Then I say, "We will go over the list again, answer just as before with the first thing you think of, but say the same thing if you can remember it"

The following is part of an actual record which I made in the Zurich Asylum on a case of dementia præcox

SPECIMEN OF AN ASSOCIATION RECORD (DEMENTIA PRÆCOX)

Time in seconds x indicates that the association was remembered [ ] give the new association I II indicate the complexes the arrows indicate the persistence of the complex

head	4 6	hair	x	
green	3 4	fields	[grass] I	
water	7 6	to drink	x	
wool	4 4	knitting	x	
long	10 0	grass	x I	↓
ship	6 6	sailing	x	
friendly	4	friend	x	
stupid	4 5	without sense	[silly] II	↓
paper	9 2	to—to use—paper to use	[to write with]	↓
despise	11 2	to shun	x II	↓
tooth	7 0	what—what you eat with	x	↓
needle	3 4	to work with	[to use]	↓

In such a record we look for associations that show one or more of three indications of distracted attention, namely 1, an unusually long time, 2, forgetfulness, 3, superficiality Unusually long times are found for "long," "ship," "stupid," "paper," "despise" and "tooth" Forgetfulness is seen for "green," "stupid," "paper" and "needle" Superficial associations, i e, those where the person was evidently not thinking of the meaning, are found for "paper" and "needle"

After finishing the record I asked the person what she thought of for "green" She said that when she made the association she thought of a beloved house and garden in far-off England which she misses very much Such an idea or group of ideas connected with a strong emotion we call a "complex" We thus note down that one of the patient's complexes is that of house and garden

Going further along the list we find "long—grass" with an exceptionally long time The same complex was aroused We note, moreover, that the following association "ship—sailing" has also an extra long time 6 6 seconds This is the usual case after a complex has been aroused, the associations that follow are slower because the person is still distracted We also notice that the second time we aroused the complex it had a stronger effect than the first time

For the word "stupid" the association was forgotten and the time was somewhat lengthened A complex was evidently aroused It was a strong one, which persisted for some time, this is shown in several ways The time for the following association "paper" was long Moreover, the association was very superficial, the person evidently could not fix her mind on "paper" and could only stammer "to—to use—paper to use" Lastly, she forgot what she had associated The complex was, indeed, a strong one, the symptom of which she complained most strongly was her increasing stupidity She said she was also troubled by the fear that people despised her for her trouble This we see for ourselves in the long time for "despise—to shun" and in the superficiality of the two following associations

Many hundreds of cases have shown that when a word brings up an idea that is associated with an emotion this distracts the person so that he does not pay full attention to what he is doing This often lasts for several associations It shows itself in the records in the three ways specified above We then reverse the process and say that when we find associations showing one or more of the characteristics, we assume them to be influenced by complexes

For the sake of simplicity I have mentioned only three of the symptoms of complexes Jung gives the following list of symptoms 1, Unusually long time, 2, forgetfulness, 3, superficiality, 4, mistakes—no answers, 5, word is taken in some unusual meaning that can be explained only by the presence of some disturbing thought, 6 persistence of the disturbance for following associations

The following record is that of a patient at the Vanderbilt Clinic

SPECIMEN ASSOCIATION RECORD (HYSTERIA)

(For explanation see previous specimen.)

true	1 2	to me	x
laugh	2.0	at it	[at me]
clean			[walter]
all	3 6	over	x
friend	1 6	of mine	x
stupid	3 2	guy	x
blood	2 8	favorite	x
money	2 4	order	[*maker*]
forget	1 2	me	x

Health was informed of 53 seizures and 49 deaths from cholera in Lucknow With that number of deaths there should have been at least 750 seizures, so that obviously the graph very much understates the prevalence of the epidemic

It was found both in hospital and outside that the fatal cases were mostly amongst the aged and small children Unless attacked by uræmia the adult under treatment usually recovered

(2) It was early noticed that the cases showed less toxicity than those of true cholera On recovery from the collapse stage there was, except in a few cases, practically no disturbance unless signs of uræmia set in The temperature chart remained flat A few cases only showed semi-coma or similar toxic phenomenon

given in 36 hours in 5 injections Usually, after the first 2 or 3 pints of hypertonic solution the remaining injection is given isotonic As in true cholera, an excess of hypertonic seems to favour the onset of uræmia

(4) The stools were, on the whole, not so typically rice-water as in cholera Amongst the 75 cases, 18 were reported to have yellowish stools and the remainder rice-water But amongst those with rice-water stools, the colour did not seem to be lost so early, and often there appeared a bright greenish colour about both stools and vomit, resembling that given by bacillus pyocyaneus The same heavy sickly odour that characterises cholera stools was present in these cases also

The somewhat different clinical aspect of

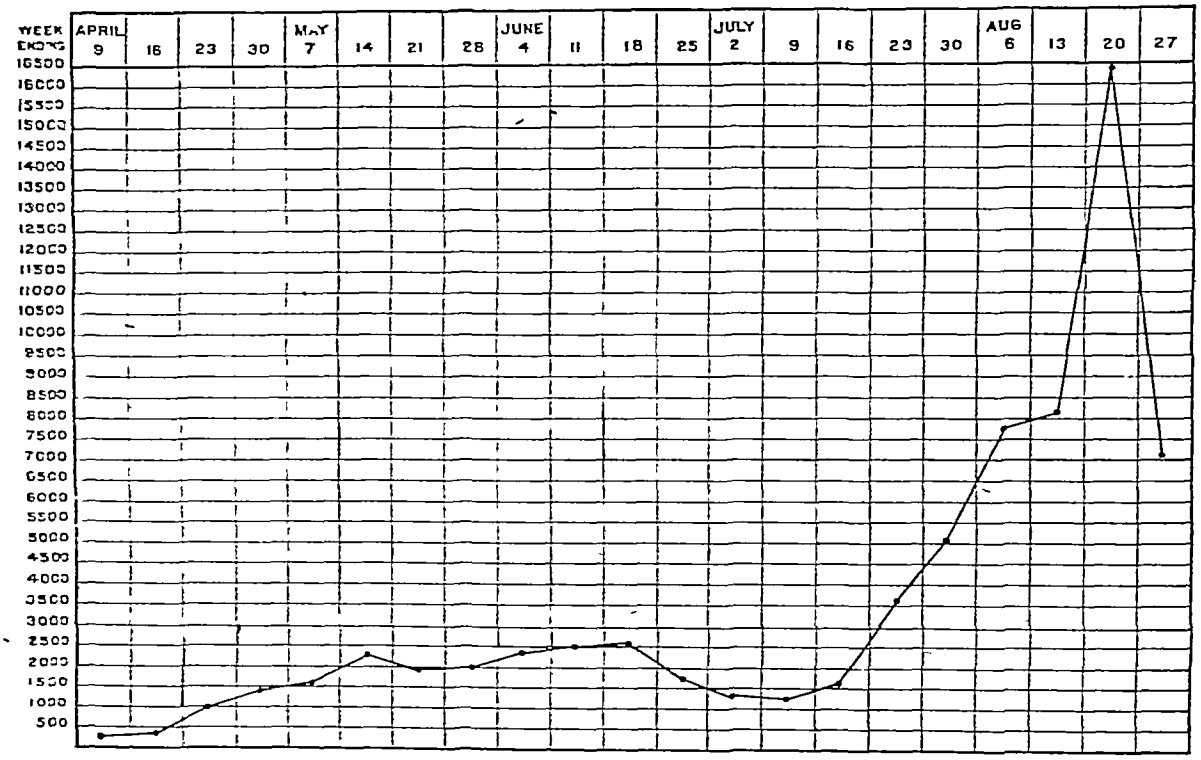


Chart II —Showing reported cholera deaths in whole United Provinces from April 3rd to August 27th, 1921

Convalescence seemed even more rapid than in cholera

Uræmia was the principal danger Of the 15 fatal cases, six died uræmic One case died from septicæmia with a purpuric rash, possibly this was connected with an intravenous injection The remaining fatal cases were mostly old men and children who died from collapse

(3) There was less tendency to vomiting than in cholera, the fluid was lost principally by stool Large quantities of fluid were given intravenously in some cases to maintain blood pressure In one fatal case 23 pints in 8 injections (3 pints hypertonic and 20 pints isotonic) were given, this case died of uræmia. In another case that recovered, 21 pints were

the bulk of these cases, combined with their appearance at a time of the year when cholera is expected to diminish, and more especially with the negative bacteriological reports, prompted further pathological investigation Captain J G Mukherji reported the almost constant presence of a particular organism in the dejecta of the cases, so the sera of patients at different stages of the disease were sent to him to test the agglutinative specificity Captain Mukherji's account of his findings is given below. My House Physician, Dr S L Gupta, has kept the notes of the cases that enable me to make this report, he has also carried out the treatment in most of the instances on the general lines of cholera cases

have perfect control of their urine, are mistaken assumptions based on incomplete observation

One hundred and sixty-seven of these operations have been the procedure commonly known as prostatectomy The after-treatment of these cases, with very few exceptions, has been conducted and controlled by me in person, so that any conclusions I may formulate are from my own experience and not derived from the clinical observations of others I have not deduced a favorite method of performing the operation, but apply the one which I think best for the particular case before me I have seen bad results in my own practice and I have known men to wear urinals or use catheters after operations done by surgeons of the greatest skill practicing in Chicago, London, San Francisco and northwestern America A prominent New York surgeon came to California and operated twice on a man, leaving him leaking and in agony for a year, simply because the surgeon was wedded to a particular perineal operation which was not applicable to this type of case, for a perfect result was subsequently obtained by the same surgeon from a suprapubic operation

The difficulties of the operation have been so minimized, the benefits in many cases so magnified, and imperfect results so glossed over or concealed by writers of known operative skill, that many who have only a very uncertain idea of the anatomy of the urogenital organs are emboldened to commence operations which they never finish and the necessity for which is often only problematical So much bad work of this nature is being done that this very beneficent operation may easily fall into disrepute

It is by way of calling attention to one of the not unfrequent disagreeable after-features, that of leakage, not the moderate leakage which is so common within the first three months after operation, but the prolonged incontinence lasting for six, eight or ten months or, perhaps, for years, that the attached cases are reported and analyzed I hope my experience may be of service to others whose opportunities for observation have not been so great or who for private reasons forbear from mentioning their troubles for fear of being accused of lack of skill When such incontinence occurs the cause may be sought for and found in one of the following conditions

1 The removal of unusually large prostates, which, in growing, have so separated the fibers of the detrusor as they spread out over the bladder base that its contractile power is greatly enfeebled or almost lost, and at the same time so stretched its fibers of insertion into the prostatic capsule and the sphincter that the vesical outlet is made to gape and the prostatic urethra and the bladder cavity become practically continuous Add to this the element of chronic inflammation and fatty degeneration, always present in these muscles where marked obstruction to the exit of the urine exists, and you have a perfect preparation for the leakage which is almost sure to follow the removal of these great tumors The support of the weakened bladder wall is taken away, a degenerated sphincter, whose nerve supply has been short-circuited by pressure and inflammatory deposit, is unable to contract. And, above all, the cicatricial tissue which fills in the large and irregular wound often so distorts the base of the bladder and its outlet that it must remain always a source of astonishment that such patients ever regain urinary control The operator can not make new bladders, and, provided he has properly and entirely removed the pathologic condition which gave rise to the necessity for operation, he must not criticise himself, or be criticised by others, for the incontinence which is sure to follow in some cases, or admit as a proof of his unique skill the brilliant success which occurs in others Time tends to improve the condition of these people, and it is even possible that control be finally regained after a year or more of enuresis Cases 1, 2, 3 and 4 are of this type In Case 1 the tissue removed weighed more than 300 grams, entirely filling a large Mason fruit jar In Case 2 the tumors weighed 190 grams, in Case 3, 250 grams, and in Case 9, 160 grams

2 Leakage following the attempted removal of very large markedly fibroid prostates, which can not be removed and prove inoperable There are two of these cases, 5 and 6, which, so far as I know, are unique The glands were so hard in both cases as to destroy the usefulness of all sharp instruments used in attacking them There was no line of cleavage between the gland substance and its capsule, and the inflammatory adhesions to the surrounding organs were so densely organized that removal by free dissection was impossible without opening the rectum high up, sacrificing the lower part of the bladder and entering the peritoneal cavity They seemed for all the world like the small solid india rubber balls, or sturgeon noses, with which the boys play hockey, placed in a setting of copper matte In Case 6, with knife, scissors and rongeurs, I cut a channel which has served since for exit of the urine In Case 5 a similar channel was cut by working from both a perineal and a suprapubic opening This did not remain open very long, which necessitated later the burning of a groove with the instrument of Bottini, which procedure fortunately has served its purpose to the present.

The natural surmise in both instances was that the growths were cancerous, but the pathologist found them to be fibroid, with no microscopic evidences of malignancy One patient was operated on in 1902, the other early in 1904 Both patients are alive and in fair general health

3 Leakage following the removal of small hard prostates with connective tissue elements predominating over the glandular elements and accompanied by a high grade of contracture of the bladder neck and diminished bladder capacity There are two of these cases, 7 and 8 which by a singular coincidence were complicated by postoperative perineal fistula From these, and further experience, I am convinced that the only conservative way of dealing with such obstructions is to completely sever the ring of fibrous tissue and the prostate in the median line from the bladder to the membraneous urethra with a sharp, blunt-pointed knife of the Blizzard type, and then remove both halves by excochleation or rongeurs, or, if this can not be done, by dissection with forceps and scissors If this measure is not adopted either the patient will leak continuously or the retention will not be relieved, in either case, the dysuria and inflammatory vesical symptoms will continue, whereas after such hemisection and removal free drainage is established, pain ceases, uremic symptoms disappear, and sooner or later more or less perfect control of the bladder follows Case 7 is additionally interesting in its demonstration that restoration of the general health may follow free drainage when a high grade of renal insufficiency is present and pronounced uremia exists

It might be argued that these are typical cases for

were bluish with reflected and reddish with transmitted light

Agar slopes and broth tubes were inoculated with these colonies The cultures next morning were tested against high titre sera (typhoid, paratyphoid A and B and B enterica Gaertner) and examined by the hanging drop method for motility Films were stained by Gram's method, and finally, behaviour with the different sugars noted

McConkey's plate—In this case colourless colonies were selected and the same procedure gone through

Out of 60 systematic stool examinations, 37 yielded organisms which behaved uniformly as regards their morphological and cultural characters Agglutination tests were carried out in 19 cases Of these nine gave positive and ten negative results when tested against their individual sera, the latter being those in which the duration of the disease was less than six days All sera obtained on or after the 6th day of disease showed presence of agglutinins in dilutions of 1 in 40 Four of such specimens were tested against the bacillus obtained from

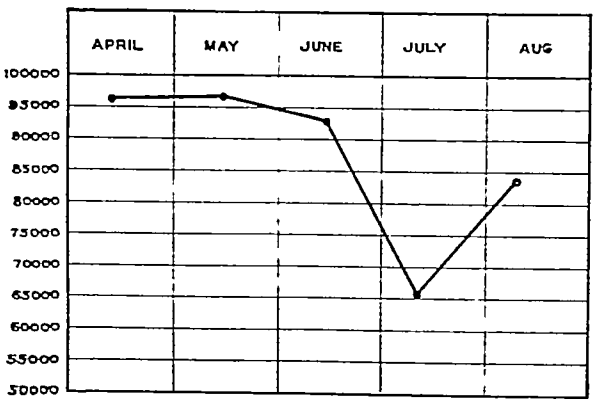


Chart III.—Showing reported cholera deaths in whole United Provinces from April to August in average of 20 years, 1862—81

another individual with positive result in three cases, but in lower dilutions Most of the 18 cases with yellow tinged stool yielded B pyocyaneus on culture, in addition to the bacillus in question

Characters of the organism isolated—It is a rod-shaped bacillus slightly thicker than B typhosus, but smaller in size. The ends are round and the thickness is uniform throughout It is actively motile, stains very readily with the usual aniline dyes and is Gram-negative

Agar slope—Uniform luxuriant growth like that of B coli

Ordinary broth—Uniform turbidity even after 6 to 8 hours' incubation A scum was observed on the surface in 5 to 7 day old cultures in several instances

Lactose—No acid or gas
Maltose—Acid and gas
Cane sugar—No acid or gas
Mannite—Acid and gas
Dulcite— Do do
Glucose— Do do
Dextrin—No acid or gas
Inulin— Do do
Milk—Not clotted
Litmus milk—Acid
Raffinose—No acid or gas

Potato—Thick growth which had a tendency to turn brownish on keeping

Glucose-neutral-red agar stand tubes inoculated by stab culture showed cleavage and slight fluorescence in a few strains

High titre sera—Typhoid, paratyphoid A and B and B enterica Gaertner , no agglutination in 1 in 10 dilution One hour at 37 degrees C (microscopic)

Animals—One c c of a 24 hours broth culture of 3 strains chosen at random and injected subcutaneously proved fatal in the case of two guinea-pigs of ordinary size (average weight being 250 grammes) in 40 to 50 hours The remaining guinea-pig is still alive and well

It will be seen from the above that the bacillus is practically a paratyphoid B or very closely allied to it The only factor against its being identified with paratyphoid B is its behaviour against the specific high titre serum

Recently isolated cultures as a rule do not agglutinate with specific sera, but do so after they get accustomed to live on artificial media, and with this point in view six of the typical strains are being sub-cultured very frequently and tested

Cases of paratyphoid B infection with clinical course of the enteric group have been observed with greater frequency just before during and after the recent epidemic

It is a pity that no unclaimed bodies were available for post-mortem examination which might possibly have thrown more light towards its solution

Note—The organism mentioned above was sent to the Central Research Institute, Kasauli, the Director of which has kindly sent us his report thereon He says 'the result points to the organism being what is now described as a paratyphoid B-like organism." The detail of the reactions he obtained is as follows —

Microscopically, the organism is a motile short bacillus resembling those of the typho-coli group Culturally, it grows well on the ordinary media and stains readily with the ordinary dyes It is Gram-negative

SUGAR REACTIONS

Glucose	Acid gas
Galactose	" "
Lactose	No change.
Maltose	Acid gas
Mannite	" "
Raffinose	No change
Saccharose	" "
Milk	" "
Litmus milk	Alkaline.
Indol	Minus

SERUM REACTIONS

Para. A	+100
Para. B	+400
Gaertner	+ 50

This case possesses three points of interest 1 The great improbability in the removal of excessively enlarged prostates, at least by the perineal route, of obtaining perfect vesical control 2 It is unique, I think, by reason of the very great number of calculi situated in all portions of the prostate, but more especially in the tissue of the capsule 3 It shows the rapid development of carcinoma in postoperative cicatricial tissue, for at the time of operation I had my fingers well into the bladder, palpating the greater part of its walls without the discovery of any suspicious nodules, while the pathologist asseverates that the thorough and complete microscopic examination of the tumors removed revealed nothing suspicious

CASE 2—S W C, aged 65 years, at 50 had an attack of retention which required the use of a catheter for several days At 58 he had a similar attack At 64, during a third attack, he was unsuccessfully operated on twice for the removal of his prostate by his local surgeon, the last left him with a tortuous suprapubic fistula, and in the effort to close this he had been chloroformed and cut seven times He was passing, with great dysuria, every twenty minutes about 15 c.c of alkaline urine Dec 12, 1894, I removed suprapubically 190 grams of prostatic tissue The healing of the wound took about nine weeks He left the hospital dribbling during the day, but holding his water for three or four hours at night In six months he had partial control during the day and better control at night After a year, he continued to wear a urinal, because under excitement and fatigue he would leak some, and urination during the day was imperative at the end of every second hour

CASE 3—V M, aged 66, led a catheter life for about ten years Operated by the Bottini method in 1901 without benefit. For a year the frequency of catheterization has been once in four hours, and severe attacks of hematuria have been frequent The prostate is very large and soft

Urine acid, sp gr 1 020, contains pus, blood, bacteria, a few hyaline casts, and ¼ per cent albumin Daily quantity, 1,400 c.c., urea, 22 grams The prostate was removed in February, 1905, under spinal anesthesia by the perineal route The fragments almost filled a pint fruit jar The patient made a good recovery but never obtained full control of the bladder, he leaked when he was tired Subsequent cystoscopic examination showed a bladder which was very much trabeculated and had a distorted entrance to the urethra, caused by the retraction of the cicatricial tissue which, filling out the enormous cavity left after the removal of the prostate, failed to support the bladder base and prevented full closure of the vesical outlet

CASE 4—A W D, aged 62 years, was referred to me by Dr Tanner He had been a prostatic five years, led a catheter life one year Prostate by rectal examination very large. Urine acid, containing 5 per cent albumin, many hyaline and some granular casts, pus and bacteria, sp gr 1 018 daily quantity 2,000 c.c. Some digestive distress, some cardiac hypertrophy and commencing mitral lesions April 6, 1906, perineal prostatectomy, enucleation difficult. The growth extended far up under the bladder wall, and its removal loosened this organ to a considerable degree from the surrounding structures The bladder was sewed to the prostatic urethra on the sides with catgut. I watched this man's recovery with considerable interest, naturally fearing that he would never be able to retain his urine Healing was complete in six weeks He dribbled continuously until June 21, when he regained and has preserved nocturnal control In October he obtained partial diurnal control, and could retain from 90 to 120 c.c. In December his bladder became very irritable, and on examining it with a cystoscope I saw a small rough phosphatic stone lying in a pocket back of the left ureter I have had occasion to watch the formation of vesical stones with the cystoscope several times, and this was left in a position for purposes of observation until Feb 18, 1907 when it was crushed and removed We have cystoscoped him several times since. The bladder surface is very rough, there are huge pockets to be seen, the interureteral fold is distorted and the bladder neck irregular, but gradually the power of retention has returned, until he can now hold from 180 to 240 c c of urine, and only wears an urinal as a precaution because the call for emptying the bladder is imperative when it comes His sexual power, in abeyance for several years, is restored, and he has gone to work at his trade as a miner

CASE 5—J S, patient of Dr Beckett, had symptoms of urethral obstruction for three years, led a catheter life for two years Catheterization possible only with a small metallic catheter, and necessary every second hour Prostate very large, could not be circumscribed by finger in rectum Urine acid, moderately purulent, no blood or casts, 900 c c, sp gr 1020

Jan 25, 1903, the prostate was exposed freely after the method of Proust Excochleation was impossible because no line of cleavage existed between the prostate and its capsule Removal *in toto* failed because the cellular cushion between the organ and the surrounding structures was destroyed by adhesions, and neither scissors, knife nor sharp rongeurs made any headway against its density The sharp instruments were nicked and destroyed A suprapubic opening was made, and as no better success followed the attack by this route, a small V shaped ditch was sawed in the floor of the prostate from the bladder to the isthmus The outer wounds healed without difficulty, but the retention was not relieved February 25 a central incision was made with Bottini's instrument After the passage of the slough, there was relief from retention, with nocturnal control and diurnal dribbling The patient is still living The pathologist reported no indication of malignancy

CASE 6—J D, aged 73 years, patient of Dr M L Moore, had difficult urination for ten years, continuous catheter life for two months It was almost impossible to insert any instrument. Urine acid, sp gr 1 020, albumin, 2 per cent, pus and bacteria present. June 11, 1904, a perineal prostatectomy was attempted The prostate was extremely hard, adherent to its capsule, and the capsule adherent to all of the surrounding tissues Excochleation, either partial or total, was impossible With knife and rongeurs enough tissue was removed to make a channel. This was accomplished by enlarging the perineal wound after the method of Proust, so as to clearly expose the prostate, and it was very difficult The tissues were almost cartilaginous in their density, hard enough to turn the edges of my best knives, break my scissors and nick my rongeurs The pathologist reported this to be a fibroma The man is still living has fair control of his bladder by day, but leaks at night He works, and is satisfied and contented, for he has no pain and is otherwise in good health

CASE 7—Mr X., patient of Drs Salisbury and Haynes, had vesical irritability, difficult urination and decreasing sexual power for five years This was treated disastrously by forced urethral dilatation He was irritable, hysterical, uremic, emaciated and cachectic, and every twenty minutes passed a thin feeble stream of urine, which was alkaline, sp gr 1 010, contained some blood pus, micro-organisms, hyaline and granular casts, and some kidney cells The daily quantity of urea varied from 9 to 12 gms Bladder capacity 80 c.c. From the pain and cachexia it was believed that he was suffering from cancer But local examination, together with frequent urinary analysis, convinced me it was rather a case of cystitis and congestive renal insufficiency kept up by prostatic obstruction Continuous drainage by retention catheter, vesical and stomachic lavage with 1 to 30,000 silver nitrate solution, hypodermoclysis of normal salt solution, gentle sweating and restricted diet gradually improved his nutrition, increased the activity of his kidneys and caused the disappearance of the cachexia and depressing nervous symptoms, the intervals of urination lengthened to one and one-half hours and the bladder capacity increased to 150 c.c, with a residuum of 75 c.c., but the dysuria continued

Nov 2, 1903, through a median perineal incision, the prostate was found to be small, sclerotic, obstructive laterally, and accompanied by a very marked contracture of the bladder neck The organ was carefully removed without disturbing the vesical outlet, as I had foolishly promised not to enter the bladder

CLINICAL PICTURES OF TUBERCULOSIS IN RELATION TO BONES AND JOINTS

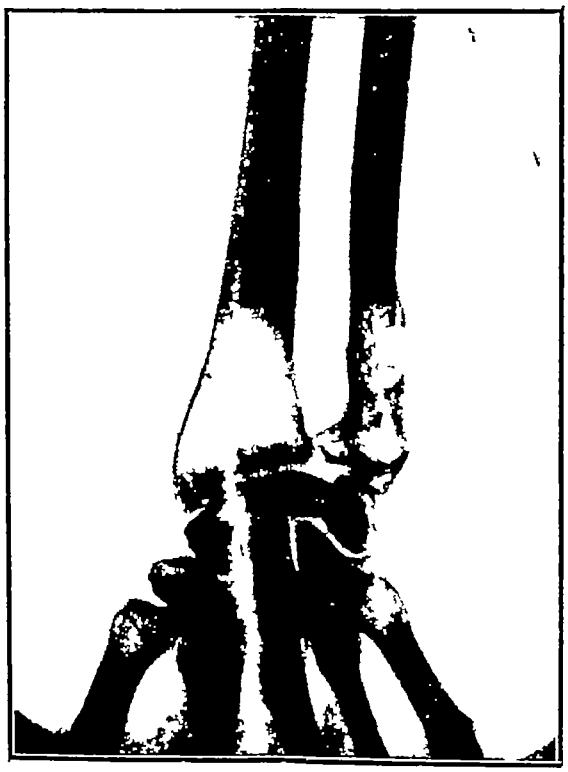
By Captain A SARGOOD FRY, I M S



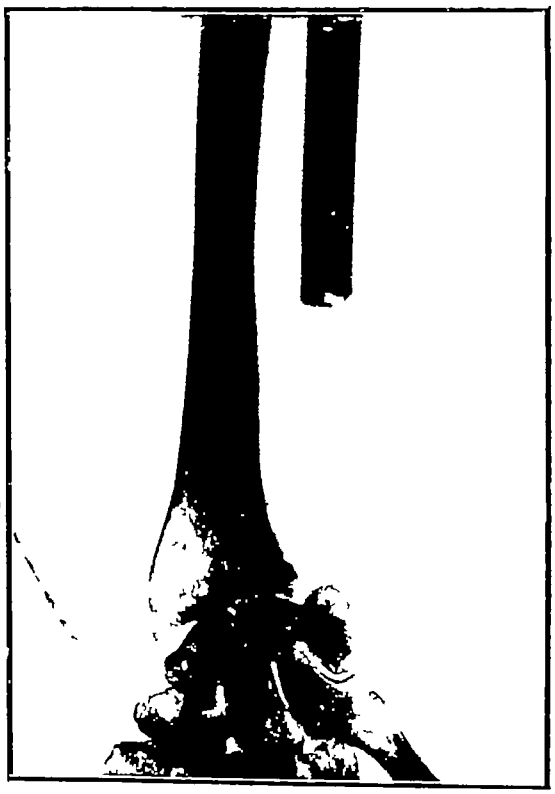
Skiagram Left Hip joint, September 14th, 1920, Carries Sicca.



Skiagram Lelft Hip Joint, November 15th 1920, Carries Sicca.



Skiagram Right Wrist Tuberculosis Osteitis Lower End of Ulna.



Skiagram Right Wrist after operation, May, 1921

almost any sort of protein For example, the serum of an animal immunized against bovine serum will produce precipitins that react only with bovine serum and not at all with any other proteins, but if bovine serum is first saturated with iodin before being used for immunization, the serum of the injected animal will react not only with bovine serum but also with horse serum, human serum, milk, or any other of a large list of different protein containing fluids Of similar import is Fleischmann's observation that tryptic digestion of serum likewise causes the serum to be capable of producing only non-specific precipitins, for in tryptic digestion it is the tyrosin and tryptophan radicals that are first split out of the protein molecule Vaughan and his pupils have been able to split proteins of various sorts into toxic and non-toxic portions, and at the recent meeting of the Association for the Advancement of Science, Dr Vaughan stated that the toxic portion of the protein molecule contains the aromatic radicals, and that gelatin, which is notoriously poor in aromatic radicals, does not yield a toxic portion

The connection between the facts mentioned above and the remarkable phenomenon of hypersensitization or anaphylaxis, seems apparent, and it was thought that if these observations and deductions are correct, then the toxic effect of a second dose of a protein injected into an animal that has been sensitized by a previous injection of the same sort of protein given two weeks or more previously, may be dependent on the aromatic radicals of the proteins To test this hypothesis several attempts have been made, with various modifications of dosage, to obtain sensitization of guinea-pigs to gelatin, which contains in the way of aromatic radicals only a small quantity of phenyl alanin, no tryptophan, and most minute or no traces of tyrosin In no case has sensitization been obtained, although, so far as the literature shows, every other form of protein that has yet been investigated will sensitize guinea-pigs These results are in agreement with Vaughan's finding that no toxic group can be split out of the gelatin molecule, and indicate that the toxic substance concerned in the anaphylaxis reaction in some way depends on the aromatic radicals of the proteins, just as the specificity of the precipitin reaction seems to be due to these same radicals As Anderson and Rosenau[1] have suggested in their valuable studies, this reaction of anaphylaxis seems to be fundamentally related to many of the vital principles of infection and immunity, and if further studies that are under way can establish what the gelatin experiments indicate, that this reaction depends on certain specific groups of the protein molecule an interesting line of research into the chemistry of these reactions will be opened

FULMINATING PELVIC-ABDOMINAL EDEMA SIMULATING RUPTURED TUBAL PREGNANCY

WALLACE A. BRIGGS, M.D.
SACRAMENTO, CAL.

The similarity of the symptoms to those of ruptured tubal pregnancy in two cases of fulminating pelvic-abdominal edema which came under my observation led me to search the literature for analogous cases Extensive research and careful study of cases revealed only two cases of fulminating pelvic-abdominal edema in which a diagnosis of ruptured tubal pregnancy had been made In one of these the diagnosis of retro-uterine hematocele was changed to salpingitis with suppurative ovaritis before operation was decided on For purposes of comparison it might be well to give a brief history of these cases before citing my own

JOCET'S CASE.—The first case was reported by Jocet in 1897 It occurred in a woman aged 28, who had been married eight years, no children. There was a history of having experienced on two different occasions severe pelvic abdominal pain accompanied by accumulation of fluid in the right iliac fossa, which presented the characteristics of hematocele These tumors terminated in resolution and the patient was entirely well during the intervals She had a third attack in September, 1907, which was again diagnosed by another physician as hematocele, and, in the light of the previous history, treated expectantly Her condition improved, but on November 23 she was suddenly attacked by violent abdominal pains and almost incessant vomiting, accompanied by pallor, anxious facies, dry and flaccid skin At the time of examination, chill, abdomen slightly tympanitic A large fluctuating mass in the right iliac fossa extended within a hand's breadth of the crural arch Right lateral cul de-sac presented a tumefaction which appeared continuous with that of the iliac fossa Bouilly positively excluded hematocele and diagnosed the condition as salpingitis, with suppurative ovaritis or inflamed cystic ovary Operation November 25 Incision in right postero lateral cul de sac was followed by a discharge of a large quantity of perfectly limpid fluid A fluctuating cyst could now be palpated in the abdomen and Bouilly, believing this to be an ovarian cyst which had given rise to the peritoneal phenomena, performed laparotomy and exposed a large gelatinform, encysted peritoneal mass in the iliac fossa, filled with a clear fluid Underneath the peritoneal edema was a whitish pink layer which formed the wall of the true sac This was punctured and a considerable quantity of fetid pus evacuated The pus sac was found to be the greatly distended suppurative ovary, it was separated from adhesions and enucleated Recovery uneventful

LEGUEU'S CASE.—The second case was observed by Legueu in 1901 Female, aged 21, was admitted to Hospital Hotel Dieu, May 16, 1901 Menstruation began at age of 16 and had always been regular She aborted in May, 1900, and complained of pelvic disturbances since then About fifteen days preceding date of admission to hospital, after regular and normal menstruation, she was suddenly attacked by violent pelvic pain accompanied by syncope, extreme pallor cold extremeties, etc. The abdomen was enlarged. Pain diminished somewhat, but the abdomen remained distended, hard and painful to pressure Vaginal examination disclosed a fluctuating mass in the posterior cul de sac A diagnosis of retro uterine hematocele was made On opening the abdomen a quantity of yellow, serous fluid escaped It was found that a serous exudate had developed around the right adnexa This contained 500 grams of fluid and extended from the cul de-sac of Douglas below to a wall of its own above, formed of a fibrinous network of tissue The adnexa were removed and the roof of the serous cavity allowed to remain Recovery was accompanied by slight postoperative suppuration The serous fluid was examined and found to contain leucocytes and desquamated peritoneal epithelial cell

BRIGGS' CASES.—I will now report my own observations

CASE 1.—Mrs G.,[1] came to my office complaining of malaise and pelvic pain Her menstruation had been normal By a pelvic examination I discovered only a slight and obscure fulness about the left adnexa The uterus was normal in size and consistency Neither the history nor the local condition suggested ectopic pregnancy Two days later the patient again came to my office Her face was pale, anxious, pinched, her pulse 120, small and weak, temperature 100 F The pelvis was completely filled with a fluctuating mass Notwithstanding the early history I made a diagnosis of ruptured tubal pregnancy On opening the abdomen I found the pelvis en

1 Jour Infect. Dis 1908 v, 85

1 Case reported to the Occidental Medical Times Author give date—with a series of twenty-one ectopic pregnancies.

diately, on account of his livelihood depending upon his occupation, a guarded favourable prognosis was given

The patient was anxious to have his disease removed On April 19th, an operation was performed under chloroform anæsthesia Two and a half inches above the tip of the ulnar styloid process the ulna was cut across subperiosteally with a Gigli's saw The lower end of the ulna was then dissected out from above downwards The upper part was shelled out from the periosteum, but, lower down, the periosteum was lost in the thin expanded shell of the end of the bone and came away with it The cavity of the lower expanded end of the bone contained dark fluid blood and pale masses of granulation tissue An encapsuled mass of pale granulation tissue and *debris* was now dissected out entire from the wound This appeared to represent the synovial stratum of the distal radio-ulnar joint The wound was closed with the exception of a small portion of its distal extremity which was left open for drainage The hand was put up on a Carr's splint in abduction

On May 9th the patient was sent home with a firmly healed wound and perfect movement of the hand and wrist I saw the man four months later He is doing a full day's work and says that his right wrist is as good as his left Stretching from the cut end of the ulna to the wrist is a tense fibrous band to which the slightly indrawn scar of the operation wound is adherent There is no sign of regeneration of bone

C Compound Palmar Ganglion

"A radical operation is strongly advised for compound palmar ganglion owing to the frequency with which this disease is tuberculous, and its consequent dangers from its surroundings"[2]

The danger referred to is illustrated by the case of an edentulous old man of sixty odd years whom I saw in May, 1921 He had noticed a swelling in the front of his left wrist about August 1920 An operation was performed during October, 1920, in which an incision was made into the upper end of the ganglion and a large quantity of melon-seed bodies expressed The patient was discharged from hospital, apparently cured, during December In the course of the next few months his hand and wrist became swollen and very painful When I saw him in May, 1921, the swollen fingers and hand were held stiffly in line with the forearm and any attempt at movement caused very severe pain in the wrist A skiagram showed early tuberculous disease of the carpus The affected parts were immobilised in plaster of Paris for a couple of months Another X-ray photograph was then taken, the skiagram showed marked advance of the disease The patient refused operative treatment and, finally, went off to his home, having obtained considerable relief from the rest and immobilisation

With the intention of preventing this disastrous complication of compound palmar ganglion, the radical operation is advised

A young sepoy, aged 19 years, consulted me on account of a swelling on the front of his right wrist, which he had noticed for the first time five months previously There was some stiffness of the fingers and pain on deep pressure over the swelling of the compound palmar ganglion which was present Palpation of the ganglion elicited a very fine crepitant sensation, and a hard nodule movable from side to side but not in a longitudinal direction was felt in the upper part of the ganglion On June 6th, 1921, operation was performed under chloroform anæsthesia, and with the aid of a tourniquet The incision extended from the upper limit of the swelling through the deep fascia and transverse carpal ligament to the level of the superficial palmar arch The synovial sheath was dissected off the tendons from above downwards When the lower end of the incision was reached strong traction on the dissected bursa enabled me to separate this a little further in a distal direction The bursa was then cut across as low down as possible, leaving a very small portion of its distal end with its prolongation into the little finger Iodoform emulsion was injected into the palm and rubbed over the flexor tendons after these had been cleaned and a small friable white body, the size of a pea, dissected off one of them

The transverse carpal ligament was repaired with stout catgut, and the skin wound closed with horse-hair The hand was put up on a Carr's splint The synovial sheath of the flexor longus pollicis did not appear to be affected The ganglion was filled with thick brownish glairy fluid, its inner surface was covered with patches of tiny villiform processes most pronounced in the proximal portion

On June 10th, the four uppermost skin sutures were removed and a small collection of brown glairy fluid evacuated On June 15th, the remaining sutures were removed and massage and movements commenced The lower two-thirds of the wound were firmly healed The upper third healed by granulation On July, 13th, the patient was discharged, very satisfied with the result of the operation He could flex and extend his fingers satisfactorily The only limitation of movement was an inability to bring his finger-tips into contact with his palm, although passively this movement was complete He was advised to continue massage and movement The patient was lost sight of as he was demobilised shortly afterwards

References

[1] A System of Surgery, by Choyce and Beattie, 1914
[2] Operations of Surgery, by Rowlands and Turner, 1915

INTESTINAL PERFORATION BY ABDOMINAL CONTUSION, OPERATION, RECOVERY

L W LITTIG, M D, M R C S
IOWA CITY, IOWA.

Perforation of the intestine caused by a blunt, non-penetrating, vulnerating body, with operation and recovery, is sufficiently uncommon to justify the report of an isolated case

Early in September, 1907, a middle aged, robust farmer ate eighteen ears of sweet corn, finishing his repast at 2 p m Two hours later, while at work in the barn, he was kicked by a horse, the blow falling just above and to the left of the umbilicus For a few seconds he did not consider himself seriously hurt, but the pain soon became excruciating He was assisted to his house and medical aid reached him within a half hour At about this time he vomited "two basinfuls" of sweet corn Morphin, ¼ grain, was administered at intervals

I was called at 6 p m but train connections and distance made it impossible to reach the bedside before 1 a m, nine hours after the accident At this time a contusion as large as a silver dollar was plainly visible three inches above and to the left of the umbilicus The abdominal walls were board like in their rigidity, tenderness on pressure was acute, especially in the immediate vicinity of the contusion Symptoms of shock were but slightly marked at this time

Basing judgment on the history, and especially on the "board like rigidity of the abdominal muscles," a diagnosis of intestinal perforation was made, and the abdomen immediately opened Coils of intestines were already agglutinated by fibrino purulent exudate, and a brief search revealed a perforation of the intestine at about the jejunoilac junction, and almost directly under the contusion The perforation was round and sufficiently large to admit the little finger, but was effectually closed by the protruding mucous lining of the intestine It was located opposite the attachment of the mesentery The perforation was closed in the usual way a few grains of corn were removed, the intestine in the immediate vicinity was carefully sponged, drainage introduced, several additional grains of corn coming away with the discharge from the wound which was profuse for a few days The patient made a complete and uneventful recovery

This case is classic in every way The perforation was directly under the point of impact, opposite the mesenteric attachment, almost completely closed by the mucous lining of the intestine, and merely enough of the intestinal contents had escaped to set up a severe but localized peritonitis The vomiting was life-saving All credit is due to the attending physicians, Drs McLaughlin and Heald, who so quickly recognized the serious nature of the accident

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WHOOPING COUGH

COMPLICATED BY ACUTE NEPHRITIS, LOBULAR PNEUMONIA AND LEFT-SIDED HEMIPLEGIA *

ALBERT ENGLES BLACKBURN, M.D
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PHILADELPHIA

F S M aged 4 years and 8 months, breast fed, has had none of the diseases incident to childhood except whooping cough, which began six weeks prior to May 14, 1907 The cough was moderately severe, four to eight paroxysms daily, with considerable eructation, the child was not considered ill and was not under medical observation She was carefully fed kept in the open air a great deal, which may have had some influence on the nephritis because of the extreme dampness and cold prevalent during this period

Suddenly, at 5 p m, May 14, 1907, while on the porch, the child was seized with a general convulsion, which was immediately followed by coma, absolute and continuous for the next ten days Convulsions recurred at 5 30 and 8 p m and 1 a m Careful inquiry elicited no indiscretion in diet However, the intestinal tract was thoroughly emptied by enemata and salines Most careful examination of the lungs failed to detect any pneumonic process Having eliminated the most likely causes of convulsions under the existing circumstances, we were puzzled when they recurred and the coma did not lessen At 11 p m we catheterized the child and obtained one-half dram of a highly albuminous urine.

The cause of the convulsions having been established, the child was placed in a hot pack, which failed to cause her to perspire The temperature began to rise, and at 2 a m, after the last convulsion, the temperature reached 108 4 The child was pulseless, respirations were very high, but were not recorded Prompt and vigorous stimulation with digitalin, nitroglycerin, strychnin sulphate, the constant application of the ice bag to the head and abdomen, and constantly rubbing the surface with alcohol, reduced the temperature gradually but continually to 101 4 at 2 30 p m The skin remained dry and harsh throughout the disease, with no visible tendency to perspiration, and the application of heat, in any form, sponge pack or hot mustard foot bath, increased the temperature, and they were discontinued

On the tenth day there appeared on the neck and chest a vesicular eruption, which soon disappeared Liquids given in teaspoonful doses were swallowed with difficulty, but, together with saline enemata, increased the amount of urine, which was voided involuntarily On the evening of the third day the temperature had risen to 103 8, at 11 p m respiration 36, pulse 144, and there were signs of beginning pneumonia in the middle part of the right lower lobe

The following morning at 11 30 the temperature was 103 6, pulse, 140, and respiration, 40

The lung lesion had gone on to complete consolidation about the size of hollow of hand In the middle of the right upper lobe, anteriorly there was a consolidation about the size of a silver dollar, with numerous moist râles over the left base posteriorly The temperature was again reduced to 102 by ice cold compresses applied to the abdomen and the other means above detailed On the morning of the sixth day the temperature again rose to 106 6, the child became pulseless, and respirations, while recorded as 36, were suppressed at intervals, Cheyne Stokes in type, and indicated laryngeal stenosis, so marked that the child seemed to be strangling to death The cough was irritating, suppressed, and the lungs filled rapidly with mucous râles

The condition was so extreme that all nourishment which had been given by gavage was withdrawn for a period of twelve hours, during which time the crisis occurred Throughout this period there were constant convulsive movements of the right arm and leg On pin pricking she would move somewhat her right arm and leg, but not her left Whether this apparent paralysis of the left side was sensory or motor was difficult to decide in the presence of the profound coma On returning consciousness, about the tenth day, there was plainly present a left-sided paralysis involving the leg, arm, face and external rectus The urine, as stated before, was voided involuntarily, but numerous specimens collected on cotton under waxed paper, showed large quantities of albumin, numerous hyaline and granular casts, and some blood It increased in amount and the abnormal findings gradually disappeared until the thirtieth day, when the urine was practically normal

The pneumonia gradually resolved itself, and the coma was replaced by returning consciousness, the cough again became troublesome and paroxysmal, whooping in character, with expectoration of mucus and occasionally vomiting It finally disappeared, as is usually seen in uncomplicated whooping-cough

The paralysis was absolute, but gradually improved On June 5, 1907, she made the first attempt to move the leg There was present marked talipes equino varus, which was corrected by a brace At this time Jan 1, 1908, she walks with a halt, and there is still loss of power in the arm, and especially in the hand.

* Presented at the West Branch of the Philadelphia County Medical Society

KALA-AZAR A PRELIMINARY NOTE ON THE TREATMENT BY THE INTRAMUSCULAR INJECTION OF A SPECIAL PREPARATION OF SODIUM ANTIMONYL TARTRATE

By L E NAPIER, MRCS, LRCP (Lond),

Kala azar Research (Tea Association Endowment), Calcutta School of Tropical Medicine and Hygiene

CHART I

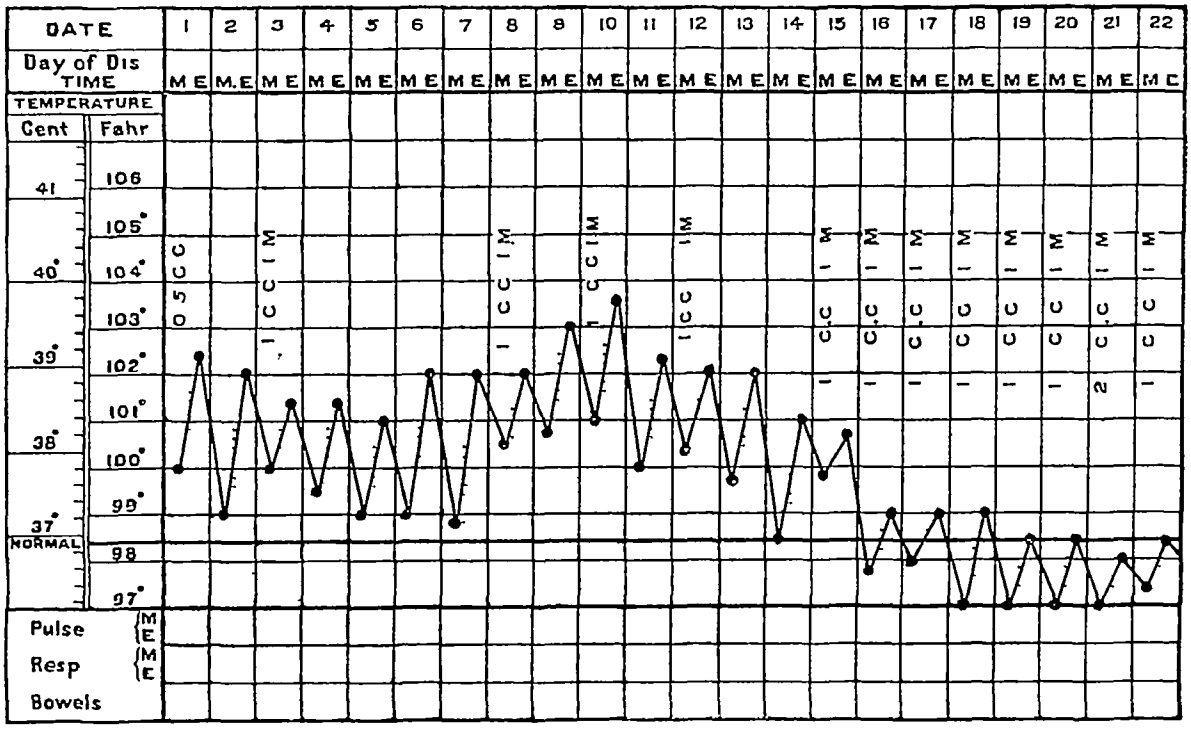
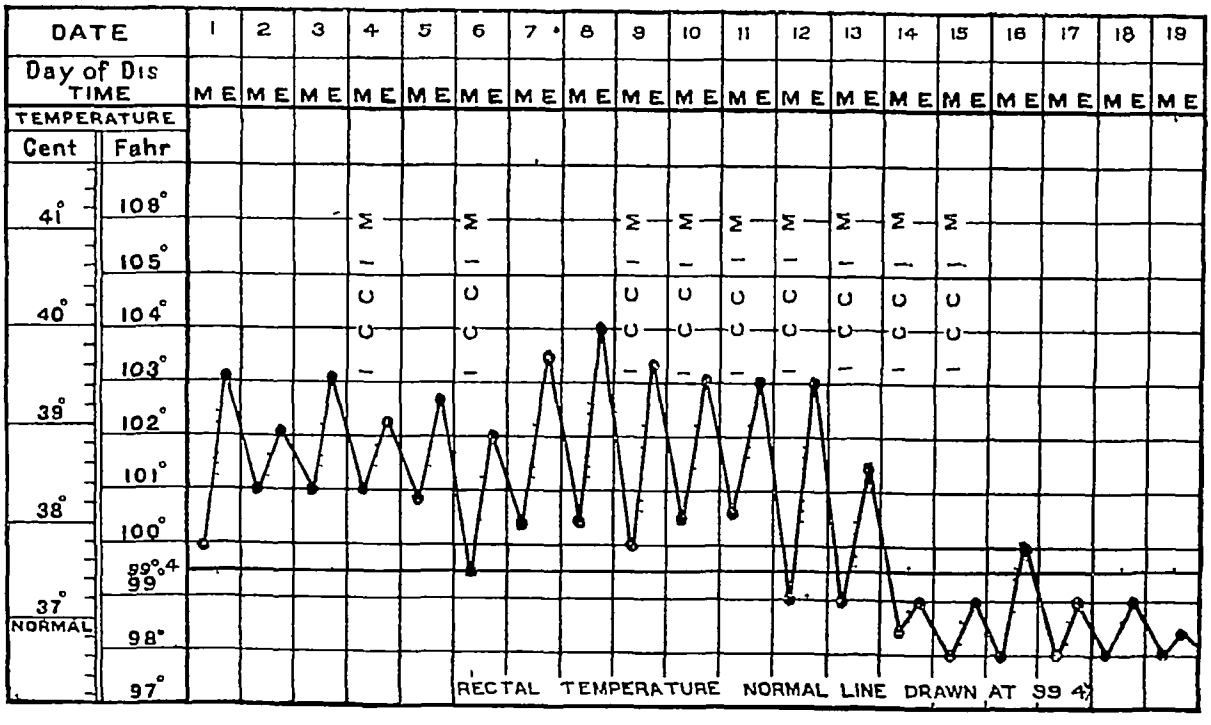


CHART II.



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[For other information see second page following reading matter]

SATURDAY, FEBRUARY 15, 1908

TUBERCULOSIS IN BIRDS

In view of the marked general interest that now obtains with respect to tuberculosis in all its forms and all its aspects, it may not be without value to recount here the chief facts learned in regard to tuberculosis in birds as the result of extensive investigation in Berlin by Max Koch and Lydia Rabinowitsch [1] During a period of about two years, beginning in November, 1903, these investigators examined carefully 459 birds at the Berlin Zoological Garden, and in 118 (25 7 per cent) they found distinct tuberculous changes The animals belonged to ten different orders of birds, the largest number with tuberculosis being different fowls In birds tuberculosis is usually situated in the abdominal organs, especially in the liver and the spleen, as well as in the case of fowls in the intestinal tract A peculiar necrotic substance develops as the end-product of the tuberculous process in birds that corresponds to the caseous material in mammalian tuberculosis The tuberculous intestinal changes are proliferative rather than ulcerative, and nodules frequently develop in the external layers of the intestine without definite changes to correspond in the mucous membrane These nodules are the analogue of tuberculous mesenteric nodes in mammals, such nodes being absent from the mesentery in birds Hence we see that in birds tubercle bacilli may pass through the mucous membrane of the intestine without leaving any lesion in it. As the nodules perforate the mucous membrane tubercle bacilli are eliminated in the feces In the lungs multiple nodules are most frequently seen Caseous pneumonic processes are rare and cavity formation was never observed Tuberculous pericarditis and tuberculous ulcers in the stomach were frequent

Avian tuberculous lesions are characterized by the immense number of bacilli present and by the special arrangement of the giant cells The bacilli are found in the center of the caseous masses as well as at the periphery, where they lie mostly in round heaps as the result of being or having been contained within cells Around the necrotic masses are radially arranged giant cells full of bacilli

Tuberculosis is, in the main, the result of food infection in the case of birds At the same time other modes of infection as, for instance, by inhalation and by direct inoculation, may occur The congenital transfer of tuberculosis is possible, and it has been shown microscopically that tubercle bacilli may be present in the eggs in the oviduct, and tuberculous chickens have been reared from infected eggs In zoological gardens it is possible that tuberculosis may be conveyed to birds in the bodies of rats and mice which are given birds as food Infection with human tubercle bacilli takes place relatively seldom in zoological gardens, much more rarely than is the case with birds that are kept in houses, such as parrots The principal source of the infection of birds is tuberculous materials from other tuberculous birds, especially intestinal discharges with which the food becomes contaminated As regards the bacilli isolated from tuberculous lesions of birds, it must be said that constant differences from the bacilli of mammalian tuberculosis were not demonstrated In some cultures the bacilli resembled very much the mammalian type, and from the organs of three birds typical human bacilli were isolated Parrots are susceptible to mammalian as well as to avian tuberculosis, and this seems to be true also of canaries Small laboratory animals are easily infected with avian tuberculosis, which may be transferred also to cattle and goats, and several mammals (mice, rats, cattle, swine, horses, apes) have been found spontaneously infected with this form of tuberculosis, and bacilli of the avian type have been demonstrated also in man

From their investigations Koch and Rabinowitsch find, as a general conclusion, that the bacilli of mammalian and avian tuberculosis can not be regarded as distinct species, but only as varieties of the same species adapted to different animal species

1 Virchow's Archiv 1907 Supplement to vol. cxc.

THE EYE SYNDROME IN DEMENTIA PRÆCOX.

It is highly gratifying to note the recent advancement which psychiatry has taken in this country under the inspiration of Kraepelin's teaching It is hoped, however, that the science will be divested of its cant phraseology or that glossaries will be inserted in textbooks to give the general practitioner more definite insight into the meaning of terms used which have been taken over bodily from the German psychologists No one study is of greater moment in psychiatry to-day than the solution of the problem of dementia præcox The real pathogenesis of this dementing disorder of adolescence would seem to depend in no small degree on physical causes The evidence for its autotoxic character is steadily increasing since Marro advanced the theory in 1900 Thus the urine studies show very defective elimination, and fully one-half of the subjects of dementia præcox die of tuberculosis Certain toxic dermatoses, such as erythemata, and vasomotor paresis seen in chronic intestinal putrefaction, occur very frequently in dementia præcox. Some additional facts are at hand as shown in the coexistence of psychic

constitution, at any rate some difference in the arrangement of the molecule, or there must be some impurities present in one or both of the samples

Some months ago I obtained a number of samples of both sodium and potassium antimony tartrate from different sources I found that they varied considerably in both appearance and solubility Few of them were completely soluble in excess of cold distilled water Although the residue was shown to be non toxic when injected into rats, the fact that gross impurities were present in the samples was demonstrated These samples were the ones commonly used for the preparation of the solutions for intravenous injection, although only one sample claimed to have been specially prepared for this purpose In this sample there was no residue

I then started a series of experiments to ascertain the effect of the antimony salts on the blood serum in vitro I will not detail the experiments here Two facts were ascertained firstly, that a large proportion of antimony was rapidly thrown down as an organic precipitate and, secondly, that the amount of the antimony thus precipitated varied with different samples of the salts and appeared to be in inverse ratio to their solubility The fact of this precipitation may help to explain further some only partially explained clinical facts, the severe coughing that frequently occurs during and immediately after the intravenous injection of antimony salts, the aggravation of any lung condition that may be present after intravenous injections, the painful swelling that occurs when the salt is injected subcutaneously The coughing is doubtless due to a large extent to the central action of the salt Blocking of the lung capillaries by precipitated particles of organic antimony would, however, produce this and would also form foci of irritation in the lung The local deposition of antimony before it has had time to be carried away into the general circulation would be sufficient to account for any local inflammation without presupposing that the solution of the salt has any necrotic action on the tissues

It occurred to me that, if a pure salt that is very soluble and is not easily thrown out of solution could be obtained and injected into the tissues, it would probably be carried into the general circulation very rapidly and would give rise to very little pain and local inflammation I, therefore, decided to experiment with a scale preparation of sodium antimonyl tartrate which was supposed to be especially pure, and which, from my rough experiments, appeared to be the purest sample that I had received I experimented at first on rats by injecting the solution in strengths of 1 per cent 2 per cent, and 3 per cent into the muscles of the thigh, subsequently on my own arm and finally on a patient After 48 hours practically no local inflammation could be detected in the muscles of the rats My own experience with the subcutaneous injection was that, for the first three minutes, there was a distinct stinging sensation and after this there was no pain but a small lump persisted which was very tender on being pressed but not otherwise The intramuscular injection was much less painful, both at the time and afterwards The patient, a small girl of about seven years old, complained of pain at the time of injection in the usual manner of a child of this age, but could never tell me on the following day where she had been "pricked" I gave up to 4 c c of a 1 per cent solution into the buttock of this child before she showed any sign of local inflammation These results were so encouraging that I decided to give this method of treatment a fair trial The cases were chosen on account of their unsuitability for treatment by other methods and not because they were cases likely to respond well to any form of treatment A 2 per cent solution of the scale preparation of sodium antimony tartrate dissolved in distilled water was used All the injections were given intramuscularly with the usual aseptic and antiseptic precautions All cases were diagnosed before the commencement of treatment by the finding of Leishman-Donovan bodies in the material obtained from their spleens by spleen-puncture

A short clinical account of the cases follows

Case No 1—Anglo-Indian girl, aged 7, fever for 4 months Emaciated Anæmic Temperature 104 Pulse 103 Spleen to umbilicus

Treated for 1½ months, 20 injections, totalling 460 mgms

Fever much reduced Less anæmic Spleen reduced to 2 inches She was in every way much improved when she was taken away by her mother Subsequently, mother describes the child as quite well and free from fever for last 3 months, that is, since she left hospital Weight increased

Result Marked improvement and probable cure

Case No 2—Mohammedan male child, aged 5, eight months' fever, epistaxis and falling hair Emaciated, anæmic, rhonchi in lungs liver 3 inches, spleen 6 inches below costal margin

Under treatment for three months, during which time he received 1,145 mgms in 40 intramuscular injections

No fever for one month, except for a few days due to nasal catarrh No apparent anæmia Face fat and healthy looking Spleen not below costal margin Liver normal Weight increased

Result Apparent complete cure

Case No 3—Hindu male, aged 35, one year's fever and general ill-being, debilitated, thin anæmic Œdema of the legs Spleen 4 inches

lar article This, of course, is not particularly a matter of medical interest, but Munsterberg sees in it the greatest utility of the discovery Whether, as he seems to think, it will completely displace the objectionable methods of the so-called "third degree" or not is uncertain, it may be found to have serious limitations when its details become known to clever criminals and they are prepared to meet and resist the tests He shows, however, that it can be successfully used to elicit concealed facts of crime or vice, and its utility may yet come to be regularly recognized in the administration of justice

We have said nothing about the value of such psychologic methods in diagnosis, they are self-evident The time is coming when, as Dr Scripture anticipates, the physician will learn his dependence on accurate psychologic insight in the diagnosis of many diseased conditions that, for the lack of this insight, have heretofore been the opprobria of medical science Not every one will have the natural qualifications or have the time or opportunity to acquire any special skill in every phase of the work, there may arise, as Scripture suggests, a class of psychologic diagnostic specialists, but the simple methods he describes of determining the underlying fixed ideas in hysteria would seem to be available for nearly every educated physician

SUPPLEMENTAL SCHOOLS FOR MENTALLY BACKWARD CHILDREN

It is a sign of great humanitarian progress that the mentally backward child is no longer to be neglected in the public school system of this country The advantages of a special institution training are about to be given a broader significance and application, and special training is to be brought nearer the home For some time it has been possible for the rich to send their unfortunate children to special schools and also to employ trained teachers to give instruction in their own homes But the less fortunate poor have had no such advantage At best they have been permitted to send the mentally backward child to a state institution too remote and inaccessible for visitation The result has been only too frequently that such a child has remained at home without school training, neglected, untaught and left to drag out a miserable existence, doomed at the outset to a life of inutility and intellectual darkness For many years in Germany, England and Switzerland secondary or supplemental schools have been in successful operation The purely mental training has been completely amplified by a thorough and detailed system of industrial education, an "intellectualization of the senses" has been aimed at During the past four years similar adjunct or supplemental schools have been opened in this country About fifty schools of this class are at present in active operation in New York City It is generally recognized that these children need a separate and special system of school instruction, and it is obviously unjust to the normal child that he should be made to associate with the mentally backward child and *vice versa*

As has been pointed out,[1] these supplemental schools should serve as clearing houses as it were, for the whole class of mentally backward children Thus, children only slightly backward may be so trained by careful study of their special lack that a short course of training may result in their being quickly returned to the normal school again, those children more lacking may require continued instruction in the special schools, while the obvious and proved cases of feeble-mindedness, after careful study and classification, will be sent at once to the proper state institution for this particular class In order to make these schools efficient it is necessary that the teachers in charge should be specially trained for the work in hand To this end it has been suggested by some of the public school and charity authorities that all teachers of the supplemental schools should have a preliminary qualification of attendance at a lecture course on the theory and method of teaching mentally deficient children, such as that given at the New York school of pedagogy, and that this didactic instruction be followed by a complete and thorough practice course in teaching mentally backward children in some state institution A commission to consider the ways and means and the practical method of establishing a normal school for teachers of these children has already taken up this problem [2] The idea is unique. No country has yet viewed the matter in so comprehensive a light.

This whole plan of special schools in connection with the public school system appeals to all, especially to the family physician who is so frequently consulted regarding ways and means of obtaining suitable education for these unfortunates The scheme of proper establishment of these schools in every large city embraces advantages of far-reaching importance, far beyond the mere academic educational issue of completing any one city's public school system

While it is not possible to say just how many children are in need of these schools, the work already done in Boston, Philadelphia, Baltimore and New York discloses the fact that the numbers are far beyond what is popularly supposed It is noteworthy that the great charity movement of the past few years in state care of the insane has left the needs of the great army of backward children unimproved, hence the activity of public school authorities in the present movement If the effort shows that fewer such children can be properly taught in these adjunct schools the movement will not be without great advantage in the care of these young wards of the state The need of a more elaborate institutional care will have

1 Report of Commission on Mentally Backward Children in the New York Public Schools New York County Medical Society December 1907 Also address on The School Training of Backward Children in the New York City Public Schools by Dr C E Atwood *New York Medical Journal* Sept 7 1907

2 Committee for a proposed normal school for teachers of mentally backward children appointed by Hon Robert N Hubbard Commissioner of Charities New York City

No fever after 13th injection Neither liver nor spleen palpable Increased weight, apparently quite fit

Result Apparent complete cure

Case No 10—Indian Christian girl, aged 6 History of fever for 4 months with continuous fever for last 40 days Wretchedly emaciated and anæmic Temperature 103, pulse 145, hair falling, spleen 3 inches below the costal arch

Treated for 3 months with twice-weekly injections (She did not attend quite regularly), 22 injections, 700 mgms

No fever for 2 months, spleen not palpable Much increased in weight, face fat, hair growing Scarcely recognisable as the same child

Result Apparent complete cure

Case No 11—Hindu boy, aged 6, fever for 4 months Emaciated child with high fever Spleen 1½ inches, liver ½ inch below costal margin Hair falling

Treated for 2½ months, 30 injections, 750 mgms

After 5 weeks, temperature became normal Spleen was not palpable, liver normal Child now quite well, appetite good, hair growing, less anæmic

Result Apparent complete cure

Cases Nos 1 to 8 were treated in hospital, cases Nos 9 and 10 were treated as outdoor patients, and case No 11 was treated privately and in conjunction with a local practitioner, who gave some of the injections with the solutions prepared by myself

The results of the treatment including the blood count finding, of these 11 cases are tabulated and temperature charts of each Nos 4, 5, 6 and 8 are given

Although this method of treatment was not undertaken with any hope that it would prove superior to the intravenous method, the results of the treatment of these 11 consecutive cases will compare very favourably with the results of treatment of 11 consecutive unselected cases by any other method In ten cases the result of the treatment was very satisfactory, seven were "apparently" cured, in two the treatment was interrupted whilst progressing satisfactorily and one case is still under treatment also progressing satisfactorily All the details that are likely to be of interest are given above and in Table I, so that further comment does not seem necessary, except in case Nos 1, 3 and 8

Case No 1—Whilst in hospital, this girl was one of the most disappointing cases that we have had Despite the fact that she seemed to be much better and that her spleen diminished very markedly, she continued to run a temperature Her mother likewise appeared to be dissatisfied with her progress and took her home I wrote to her mother sending a number of questions to which she replied The letter I received is, I think, worth quoting verbatim

Question	*Answer*
How is M now ?	She is quite well
Has she any fever ?	No
How long has she been free from fever ?	About three months.
Is her spleen enlarged ?	No
Has she had any more treatment, and if so, where ?	Home treatment
What kind of treatment ?	With papaia and vinegar
Any other information ?	Her health at present is very good

So that if her (the girl's) mother's statement can be accepted, this girl's case can be claimed as a cure, temporary, if not permanent, by either "papaia and vinegar" or intramuscular injections of sodium antimony tartrate

Case No 3—This was also a disappointing case The whole of the time that he was under treatment he made rapid strides towards recovery, his temperature came down to normal and his spleen was reduced from being 4 inches below the costal margin to being impalpable, within a period of 3 weeks He lost weight rapidly, but I put this down to the decrease in the size of his spleen and to the loss of œdema Just before his sudden death, he was caught selling his food to another patient—a habit which we subsequently discovered that he had been practising for some time Myocardial degeneration due to kala-azar in a patient who was starving himself and sudden violent emotion are probably quite sufficient to account for his death It is scarcely conceivable that the amount of antimony he had had, half a gramme over a period of 30 days, could in any way account for his death, but it seems to me that one must bear in mind the possibility of the toxins set free by the rapid destruction of a number of Leishman-Donovan bodies and the breaking down of spleen tissue having had some deleterious effect on the heart

Case No 8—The dermatitis from which this man suffered was not a local condition starting from the site of injection, but was a general condition involving the whole of the skin surface, the mucous membrane of the nose and mouth and the conjunctivæ The skin became very red and thickened and puffy round the eyes, he had a sero-purulent discharge from his nose and eyes and his mouth was very painful The condition was accompanied by slight fever and subsided after about a week He is now in the exfoliating stage and quite free from fever I have seen a similar condition occur in a patient after treatment with Salvarsan, but have never before seen it in a patient receiving antimony injections

There is not at our disposal at present any certain method, either clinical or laboratory by which one can decide that a patient is cured The diagnosis was made in the above cases by the finding of the causative parasite in the blood or the spleen, but from our own experience from that of other observers we know

simultaneously attacking many citizens In about a week the worst was over and there was no immediate mortality Since then, similar reports have come in from several places in Wisconsin, Ohio, and contiguous states, of what seems to be the same disease—a sort of gastroenteritis attended with nausea, vomiting, and, in severe cases, collapse The most natural supposition would be that the epidemic was due to impurity in the water supply, though at Lansing, where the state board of health has investigated the matter, this is disproved Another possibility suggested is that it might be an exacerbation of a special gastrointestinal form of influenza The epidemic bears a close resemblance to a similar one that occurred in some parts of the country in the winter of 1880-1, and which was discussed in the *Bulletin of the National Board of Health* that existed at that time There was the same epidemic onset and the gastrointestinal and other symptoms were apparently identical, but while the severity of the attack was usually quickly over, there were many relapses At that time epidemic influenza had not reached this country and therefore received no credit for the epidemic Being prior to the days of medical bacteriology, its cause was not investigated This older epidemic cut no figure directly in the mortality reports, but undoubtedly had an indirect effect which was later attributed to other causes, and the same will probably be the case to some extent with the present disorder

STATE AND INTERSTATE SANITATION

A bill was recently introduced in the Ohio legislature giving the state board of health supervisory powers over water courses, public waterworks and sewage disposal There can be no question as to the propriety and urgent need of some such measure in every state not already thus provided for The states of the middle West, with their small amount of waste lands, densely settled rural districts and numerous large towns, stand in special need of such legislation, which will naturally be vigorously opposed by local and private interests now profiting from the insanitary conditions In Illinois, for example, in 1897 there were fifty-two municipalities obtaining their public water supply exclusively from surface drainage, mostly from slowly-running streams carrying the sewage of manufacturing villages This was the figure given by the U S Geological Survey ten years ago, and it is not likely that conditions have materially improved since then Other states are no better in this respect and some may be worse. State legislation, moreover, while a necessity and capable of doing an immense amount of good, will by no means meet all the needs, there must be interstate cooperation or a federal control of sanitary matters to a large extent to insure normal sanitation of water supplies As was well said by Dr H R Mill,[1] when speaking of English conditions in his presidential address before the Royal Meteorological Society "Care for the water supply of the country, coming as it does from the air that knows no boundaries, across the land, is by no means a parochial, but in the fullest sense a national matter, and should be dealt with in the interests of the nation as a whole " This applies also to this country, where matters of health as well as of wealth are so extensively involved Up to a recent period, as shown by Dr Bracken[2] less than half a dozen states had approximately adequate laws on this subject and there had been hardly any active cooperation for the interstate control of water supplies It is probably true that large rivers, flowing long distances without local contamination, tend to purify themselves, but when flowing through populous districts this self-purification can hardly be relied on, and the Ohio river, bordering five states, has recently been described as "a thousand miles of typhoid" In case of smaller streams, under like conditions, a similar epithet is even more likely to be appropriate How far the general government can take up this matter may need to be settled by court decisions, but there are some ways that ought to be directly practicable The state board of health of Georgia has recently taken a step in this direction by passing resolutions favoring the establishment of the Appalachian National Forest Reservation, which will also, it is said, be favored by the authorities of other southern states If the general government can be given the control of the head waters of the streams of a large portion of the country it ought to simplify many of the questions that would inevitably arise if the matter were left to the state authorities alone

1 Nature January 23

THE AUTOMOBILE NUMBER.

The Automobile Number of THE JOURNAL, March 7, 1908, we believe, will be an interesting issue In response to the announcement in THE JOURNAL, in which we asked for experiences, we have received many communications — bright, thoughtful, analytical — which seem to present all the various phases of automobile experience Many readers write us that they look forward to this issue with great anticipation, because our previous automobile number not only was interesting but proved of practical value to them in connection with their choice of a machine There is room for a few more communications—the more terse and pointed the better—but they should be received within the next seven days We can also use more illustrations It is preferable that the illustrations show the machines in local surroundings and ready for the road, and it is most important that they may be clear and sharp

Medical News

CALIFORNIA

The Plague Situation.—A telegram from the special correspondent of THE JOURNAL in San Francisco, dated February 11, states that one case of human plague was verified February 8 *The citizens are very active, and a large fund is being raised* to be placed at the disposal of Surgeon Rupert Blue of the P H and M H Service for additional rat catchers, traps, etc Additional sanitary inspectors to be placed under the orders of Dr Blue will also be appointed, and the sanitary laws will be rigidly enforced The law committee, consisting of Drs Herbert C Moffitt and Philip Mills Jones, and Captain Goodall on February 11 saw the mayor and the president of the police commission, who agreed to swear in all sanitary in

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TABLE I

Details of eleven consecutive cases of kala-azar treated by intramuscular injection of a special preparation of sodium antimony tartrate

Number	Nature of the case	Special reason for which the patient was selected for this mode of treatment.	Age	Duration of illness prior to treatment	Duration of treatment.	Duration of fever	Total "Scale" antimony injected	Total number of injections	Number of injections given before cessation of fever	Enlargement of spleen below costal margin before treatment	Enlargement of spleen below costal margin after treatment.	Weight.	Red blood cells and hæmoglobin before treatment. Per c.mm	Red blood cells and hæmoglobin after treatment Per c.mm	White blood cells before treatment. Per c mm	White blood cells after treatment Per c mm	Number of occasions on which a local abscess has formed	RESULT OF TREATMENT
			Years	Mths	Days	Days	Mgms		Ins	Ins	Ins							
1	Acute	Lung condition	7	4	45	45	400	20		5	2	Increased			1,000		0	Very marked improvement and probably eventual complete cure
2	Sub acute	Small veins	5	5	90	30	1,145	40	10	6	0	Do	2,200 000 40%	5,200 000 80%	1 600	15 000	0	Apparent complete cure
3	Do	Debilitated condition of patient	35	12	30	18	520	17	9	4	0	Decreased			4,200		0	Rapid improvement with disappearance of symptoms followed by sudden death
4	Acute	Lung condition	11	2½	60	17	800	30	9	3	0	Increased	50%	80%	1 200	4,000	2	Apparent complete cure
5	Do	Small veins	5	4	65	17	1 060	40	9	To navel	0	Do		6,200 000 80%	5 200	14,000	0	Do
6	Do	Acuteness of attack	14	5	80	41	1 140	41	22	2½	0	Do		5 200 000 80%	2 500	8,500	1	Do
	Sub acute	Lung condition	13	8	32	30	450	16	15	To navel	2	"		3,180 000 60%	2,200	3 110	1	Incompleted cure Showing marked improvement when taken away from hospital
8	Do	Debilitated condition of patient	30	5		30	330 to date	16 to date	14	8	3	Decreased	3,600 000 40%	—	3,500	6 200	1	Very marked improvement Still under treatment.
9	Do	Small veins	8	5	75	40	720	22	13	3½	0	Increased		4 716 000 90%	5,400	7,500	0	Apparent complete cure
10	Do	Do	6	4	90	30	700	22	8	3	0	Do		80%	2 000	6,200	1	Do
11	Do	Inexperience of local practitioner in intravenous therapy	6	4	75	35	750	30	17	1½	0	Do		5,200 000 80%	12,400	25,000	0	Do

sey, treasurer——The contractors for the sanatorium of the league report that seven cottages are completed——Mr. M. O. Nelson, a St. Louis philanthropist, has offered to defray the expenses of the tuberculosis sanitarium at St. Tammany Parish for three months.

Society Meetings.—At the annual meeting of the Orleans Parish Medical Society the following officers were elected: President, Dr. Amedee B. Granger; vice presidents, Drs. William H. Seemann, Richard W. Salter and C. W. Allen; secretary, Dr. Edward M. Hummell; treasurer, Dr. Sidney K. Simon; librarian, Dr. Hober Dupuy; and directors, Drs. John J. Archinard, William W. Butterworth and Eugene H. Walet——At the annual meeting of the Rapides Parish Medical Society, held in Alexandria, January 6, the following officers were elected: President, Dr. G. M. G. Stafford, Alexandria; vice president, Dr. Alexander H. Biscoe, Tioga; secretary, Dr. Arthur R. Chopin, Lamothe; and treasurer, Dr. F. V. Gremmillion, Alexandria——At the annual meeting of the Bienville Parish Medical Society, held in Gibsland, January 17, the following officers were elected: President, Dr. Oliver O. Hamner, Bienville; vice president, Dr. Claude C. Allums, Manning; and secretary-treasurer, Dr. F. R. Singleton, Arcadia.——At the annual meeting of the Tangipahoa Parish Medical Society, held in Amite City, January 12, the following officers were elected: President, Dr. H. G. Morris, Kentwood; vice president, Dr. Glenn J. Smith, Amite City; and secretary, Dr. James L. Lenoir, Amite City——At the annual meeting of the Shreveport Medical Society the following officers were elected: President, Dr. James C. Willis; vice president, Dr. J. M. Bodenheimer; secretary, Dr. D. A. Mohler; and treasurer, Dr. William L. Egan.

MARYLAND

Personal.—Dr. Charles A. Wells, Hyattsville, sailed for the Orient, February 6——Dr. John P. Briscoe, Washington, D. C., has been appointed temporary resident physician of the Maryland Agricultural College, College Park, vice Dr. William O. Eversfield, deceased.

Tuberculosis Exhibit.—The traveling tuberculosis exhibit of the Maryland Association for the Prevention and Relief of Tuberculosis will be held at the Hebrew Friendly Inn and Aged Home, Baltimore, February 10 to 17. During this time public lectures will be given each afternoon and evening.

Baltimore Personal.—Dr. William F. Lockwood, Baltimore, is ill at his home with diphtheria——Dr. William D. Booker, Baltimore, has been critically ill with pneumonia——Dr. Howard A. Kelly has returned from a six weeks' trip to Mexico——Prof. George M. Stratton, head of the department of experimental psychology at the Johns Hopkins University, has resigned to accept the directorship of the department of psychology in the University of California.

Library Site Purchased.—The Medical and Chirurgical Faculty of Maryland has purchased a site 60x234 feet for the use of the new library building on Cathedral Street, Baltimore, for $22,000. Only the leasehold interests were bought, the lot being subject to a ground rent of $123.50 per year. Professor Welch will address the legislature, February 12, in favor of a bill making an appropriation of $100,000 toward the library fund. The druggists of Baltimore have raised $5,000 for the building.

MICHIGAN

Illegal Practice.—Urban Hartung, Detroit, accused of practicing medicine without registration, is said recently to have been found guilty.

Personal.—Dr. Charles B. Stockwell, Port Huron, is critically ill with pneumonia——Dr. Alexander W. Blain, Jr., has been appointed senior house physician of Harper Hospital, Detroit——Dr. Walter F. Wilson, Grand Ledge, was elected president of the State Board of Pardons, January 14.

Consumptive Sanatorium Opened.—The State Tuberculosis Sanatorium at Howell recently opened, has at present 11 male patients. The building for women is almost completed, and this with a third building in process of erection, will give a total accommodation of 38 patients for the sanatorium.

Communicable Diseases.—Menominee is suffering from an epidemic of typhoid fever and pneumonia.——Smallpox is reported in one of the lumber camps 20 miles west of Cadillac.——The quarantine on the state prison, Jackson, established on account of the presence of smallpox, has been raised.——Burr Oak has 4 cases of smallpox and Calhoun County 17——Monroe Center is reported to have several cases of smallpox, and the public school has been closed——Scarlet fever is said to be epidemic at Kingsley——Several cases of scarlet fever are reported from Shepherd, where schools have been closed and public gatherings interdicted.

MINNESOTA

New Hospital.—The proposed Sheltering Arms Hospital, Minneapolis, plans for which have just been completed, is to stand in Mississippi Parkway between Lake Street and Minnehaha. It is to be a brick structure and will cost about $40,000.

Personal.—Dr. I. Daniel Webster, Mankato, at present in San Diego, Cal., has almost recovered from his recent illness——Dr. Gustav W. Barck, health officer of Albert Lea for 14 years, has resigned——Dr. D. Edmund Smith has been elected superintendent of the Asbury Hospital, Minneapolis, and Dr. Willard B. Pineo, secretary——Dr. J. Warren Little has resigned from the directory of the Asbury and Rebecca Deaconess Hospital and Home, Minneapolis——Dr. Arthur Sweeney, St. Paul, has been visiting in Lawrence, Mass.——Dr. Peter M. Holl, Minneapolis, has been elected city physician, vice Dr. Ole E. Linjer, deceased.——Dr. John F. Fulton, St. Paul, has resumed active practice.

Contagious Diseases.—There are said to be about 24 cases of diphtheria among the inmates of the state reformatory, St. Cloud——In order to prevent the spread of scarlet fever, the board of education of Minneapolis has decided to burn at least 750 text books in use in the Kenwood and Douglas schools——Scarlet fever is reported to be epidemic in Preston——Several cases of hemorrhagic smallpox have been discovered in St. Paul——In Monterey and Triumph 110 cases of smallpox are reported and the inspector of the state board alleges that no attention has been given to the matter by the local boards of health——Smallpox is reported to be prevalent in Lake Prairie township.

MISSOURI.

Permit Refused.—The board of health of St. Louis on January 9 is said to have refused to grant a permit to the Hippocrtian College to conduct a hospital and dispensary.

Smallpox.—A number of cases of smallpox are reported in Bucklin and Hart——Several cases of smallpox are reported in Johnson and Lafayette counties——Kansas City has 20 smallpox cases in the Isolation Hospital.

Fire in Epileptic Colony.—Cottages B and C at the State Colony for the Feeble minded and Epileptic, Marshall, were damaged to the extent of $35,000 by a fire, January 19. The patients in the two cottages were removed without injury.

Personal.—Dr. Charles B. Simcoe, St. Joseph, has been elected superintendent of the State Colony for the Feeble minded and Epileptic, Marshall, vice Dr. William L. Whittington, term expired——Dr. Joseph E. Dibble has been elected president of the colored people's branch of the Kansas City Society for the Relief and Prevention of Tuberculosis.

Elections.—At the annual meeting of the North St. Louis Medical Society, held January 14, Dr. Henry J. C. Sieving was elected president, Dr. Andrew A. Henske, vice president, Dr. Henry C. Niebrugge, secretary, and Dr. Albert F. Koetter, treasurer——The St. Louis Society of Internal Medicine was incorporated January 19. Dr. Gustav Baumgarten was elected president. Dr. Washington E. Fischel, vice president, and Dr. Elsworth Smith, secretary-treasurer.

Hospital Notes.—The new hospital for the treatment of tuberculosis patients under the direction of the authorities of Kansas City, is to be erected on high land near Leeds. The estimated cost of the structure is $6,500 and the building is to be constructed from native stone with thatch and stucco——The Kansas City Postgraduate Medical School and Hospital, formerly occupied by the Medico-Chirurgical College, is now ready to receive patients. The hospital has accommodations for 60 patients——The addition to the Ensworth Hospital, St. Joseph, is nearly ready for occupancy. The improvement, when completed, will provide accommodation for about 40 more patients, making the capacity of the hospital about 90.

The Finger-Licking Habit.—At a meeting of the Medical Society of the City Hospital Alumni of St. Louis, held February 6, the following preamble and resolutions relative to the habit of finger licking were adopted and copies ordered to be sent to the postmaster general, postmaster of St. Louis, St. Louis health department, and the daily and medical press:

WHEREAS, The specific organisms of serious diseases may be present in the mouths of persons who apparently are in a fair state of health. The secretions from the posterior nares, throat and mouth supply a means whereby the transfer of such organisms to other persons and things is facilitated. Next to promiscuous spitting, the practice of habitual insalivation of the fingers by those harboring such organisms affords the readiest means of conveying infection to others. Healthy persons may infect themselves by germs carried by their fingers into their own mouths. Money

of temperature, about 100 degrees after the injection Mixture continued as before

23*rd April*—0 5 gram neo-kharsivan intravenously Reaction nil Condition of sore and operation wound, better Rash, drying up

30*th April*—Stock of neo-kharsivan having run short, no injection could be given The mixture, as usual, is being continued

1*st to* 19*th*—Patient was kept on to the anti-syphilitic mixture Sore healed up, the secondary rashes disappeared and all active signs and symptoms of the disease disappeared On the 19th May he was discharged from the hospital with instructions to attend the weekly course of syphilis treatment in order to complete the prescribed course But the patient did not turn up as instructed However, on the 13th June, he reported sick, when he developed the facial paralysis

Taking into account the past history of the case, I removed the patient to the venereal ward, and put him on to anti-syphilitic mixture, and a small blister was applied in front of the right ear

16*th June*—0 3 gram of neo-kharsivan was given intravenously As the patient was much run down, this small dose of arsenic (neo-kharsivan) was prescribed Reaction, nil

18*th June*—No improvement, constantly complains of pain on the right side of face and noise in the right ear

24*th June*—0 45 gram of neo-kharsivan intravenously No reaction

26*th June*—Pain somewhat less but patient complains of difficulty of hearing

2*nd July*—Patient developed left-sided facial paralysis, with severe pain in the left ear and inability to sleep at night and difficulty in hearing as well

3*rd July*—0 6 gram neo-kharsivan was given and the dose of pot iodide was increased to 10 grains per dose t d s

10*th July*—0 6 gram neo-kharsivan was given

12*th July*—Patient much better to-day, pain much less, right side of the face much improved, can close the right eye

19*th July*—0 6 gram neo-kharsivan. No reaction.

22*nd July*—Very much better to-day Paralysis of the right side disappearing, pain on the left side less

30*th July*—0 6 gram neo-kharsivan No reaction

1*st August*—Condition very much improved, can hear now by the right ear, very little trace of paralysis on the right side Pain on the left side of face less

7*th August*—Neo-kharsivan stopped, only anti-syphilitic mixture by the mouth is being continued Condition steadily improving Right side of face normal, paralysis on the left side of face improving

10*th August*—From this time onward the patient made uninterrupted recovery, he was subsequently boarded and invalided out of the service

The second case of facial paralysis, following syphilis, that came under my observation, was also in a patient who did not receive complete course of treatment He was discharged from the hospital when the active signs and symptoms of syphilis subsided with partial treatment, with instructions to attend the weekly course of treatment till the full course is finished But this patient, too, did not turn up, but he came to hospital about two months afterwards, when he developed facial paralysis This facial paralysis was cured with another full course of syphilis treatment I regret to say that I am unable to give the full history of the case with all particulars, as I lost the papers relating to this case in course of my transfer

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AN UNUSUAL CASE OF SNAKE-BITE

By D F MICHAEL,

Assistant Surgeon

(*Medical Officer, A R I, Pusa*)

THE following case will, I am sure, be of interest I was called to see a young man in a village in the neighbourhood of Pusa, who had been bitten by a snake The messenger, who arrived at about 11 a m, stated the patient had been bitten at 5 a.m that day, that his condition at the moment was very bad, and that the snake, which was a very "dangerous one," had been left unmolested inside the hut, which the patient had been occupying when he was bitten He said that though the victim was almost "behosh," the relatives and friends did not entirely give up all hope for the simple reason that the snake was still alive! Taking everything into consideration, I came to the conclusion that the patient must already have a fatal dose of venom in the general circulation Antivenene in the quantity that might have been of use in such a case was not at the moment available I saw the patient at 12-30 p m *i e*, 7½ hours after he was bitten He was too weak to stand or to sit up with his head erect There was marked ptosis, the speech was indistinct and very nasal, and there was restlessness and dyspnœa Deglutition was difficult and fluid swallowed would regurgitate through the nose The whole of the right hand, on the forefinger of which he had been bitten, was greatly swollen and œdematous with loss of sensation

I applied a ligature at the forearm, rubbed potassium permanganate crystals into the site of the bite, and infiltrated the bitten finger and the whole hand with about 5 c c of a 5 per cent solution of gold chloride, gave him a hypodermic injection of strychnine and digitalin, and urged his people to bring him to the hospital with the least possible delay, though I held out very little hopes of his recovery

care of the dependent poor as rapidly as possible It also advocated the extension of civil service rules to all almshouses, as this would attract more capable men and women, and would give a higher standard of efficiency

New York City

Hospital Needs Aid.—The Eastern District Hospital of Williamsburg, Brooklyn, which was established more than fifty years ago, has made its first appeal for aid to the public. The Ladies' Auxiliary has arranged for an entertainment for the benefit of this institution

Lowest Death Rate on Record.—The death rate for the month of January was 18 51 per 1,000 population, the lowest since 1898, with the exception of 1906 The rate comes within three one hundredths of breaking the record The decrease is largely in infant mortality The figures for the week ended February 1 are lower than for any other week in the records of the department, the rate per 1,000 being 17 03 There were decreases in the deaths from heart disease, pneumonia and tuberculosis

Academy Prosperous.—Col William C Gorgas, assistant surgeon general, U S Army, chief surgeon of the Canal Zone, who delivered the anniversary address at the New York Academy of Medicine on "The Sanitation of the Canal Zone," has been elected an honorary member of the academy The membership of the academy, which is limited to 1 000, is now completed, and it has so large a waiting list that, at the present rate, three years will elapse before the last applicant can be admitted.

Disposal of Stray Dogs.—The health department has asked the board of estimate and apportionment for $15,000 for the purpose of catching and caring for stray dogs Dr Darlington in supporting the request said that there were in the laboratory undergoing treatment 30 persons who had been bitten by mad dogs Last year $7 000 was expended in caring for such persons He thought the services of the Society for the Prevention of Cruelty to Animals should be recognized The question was referred to the legal department.

To Explain Overcrowding.—There will be an exhibit in the American Museum of Natural History for two weeks beginning March 9, for the purpose of showing the conditions resulting from overcrowding The investigation of the evil conditions which has recently been made will be placed on record On the second day of the exhibit a discussion will be held, at which Governor Hughes Mayor McClellan and several of the commissioners of the city will speak The object of this exhibit will be to recommend that the population spread to the suburbs

Hospital Election.—At the annual meeting of the governing board of Mount Sinai Hospital the following officers were re elected Isaac Stern, president, George Blumenthal and Emil Lewis, vice presidents F Asiel, treasurer, and Leo Arnstein, secretary The president's report shows that, during 1907, 6 173 patients were admitted There were 177 829 dispensary cases, and 152 906 prescriptions were made. There is a deficit in the finances of the institution of $31.830 The hospital hopes to establish a tuberculosis bureau which will divide the upper section of the city into districts

NORTH CAROLINA.

Asheville to Have an Ethical Pharmacy.—A movement, headed by several well known physicians of Asheville, is being made to establish a drug store which will carry a complete stock of druggists' supplies and chemicals, and will make its specialty the filling of physicians' prescriptions, but will eschew, it is said, all "patent" or proprietary remedies

Tri-State Society Meeting.—The tenth annual meeting of the Tri State Medical Association of the Carolinas and Virginia will be held in Charlotte February 18 and 19, under the presidency of Dr Stuart McGuire, Richmond Dr J Howell Way, Waynesville, is secretary Headquarters will be at the Selwyn Hotel and the topic for the general debate will be "The Treatment of Epilepsy"

Personal.—Dr Paul H Ringer, Asheville, who has been seriously ill at the Mission Hospital in that city is now improving ——Dr J Vance McGougan, Fayetteville, has been elected vice president of the Scottish Fire Insurance Company of North Carolina ——Dr Kenneth M Ferguson for four terms mayor of Southern Pines has resigned and will move to Washington —— Dr Edward C Register Charlotte has returned from Europe ——Dr Lawrence E. Holmes, superintendent of the Biltmore Hospital, is convalescent from an attack of pneumonia.

Prohibition Act.—The legislature has passed an act submitting the question of state prohibition of the manufacture and sale of intoxicants to a vote of the qualified voters of the state The election is called for May 26, and if carried the law will become effective Jan 1, 1909 The act permits the sale of alcoholic liquors only on prescriptions of regular practicing physicians, and permits also the sale of Jamaica ginger and other medicines containing alcohol.

NORTH DAKOTA.

Smallpox.—The most extensive and general outbreak of smallpox ever known in Wells County came to public notice in Fessenden, January 4, where five families were simultaneously placed under quarantine The disease has existed among Russian residents for some time, but has apparently been concealed. The public schools of Fessenden have been closed.

Personal.—Dr James P Aylen, Sheldon, for many years coroner of Cass County, has been appointed chief surgeon of the Northern Pacific Railroad Hospital, Missoula, Mont, and has assumed his new duties A banquet was given by the county society to Dr Aylen, January 11, at which he was presented with a clock as a token of the esteem in which his contemporaries hold him ——Dr Francis R Smyth, Bismarck has been elected president of the State Board of Medical Examiners, vice Dr James P Aylen, resigned.——Dr Paul Sorkness, Fargo has been reappointed physician, and Dr Krekore H. Mallarian, Fargo, assistant physician, of Cass County ——Dr William H M. Philip, Hope, is reported to be seriously ill ——Dr Robert D Campbell, Grand Forks, left for Europe January 5 ——Dr George A Stark, Mandan, has been appointed county physician for the eastern district, and Dr Jacob Bursma, New Salem, for the western district, of Morton County

OKLAHOMA.

Smallpox.—Smallpox has made its appearance among the students of the Oklahoma University, Norman One student is ill with the disease and several are under quarantine.—— More than 50 cases of smallpox are reported at Owassa

Seek Separation.—The State Board of Health and the county health officers have asked the state to separate the State Board of Health from the State Board of Medical Examiners, and also asked for the establishment of a bureau of vital statistics

Personal.—Dr William W Rucks, Guthrie has been appointed assistant superintendent of the Oklahoma State Hospital for the Insane ——Dr Clinton M Maupin has resigned as a trustee of Waurika County ——Dr W S Owens has been appointed physician of Muskogee County

Physicians Must Register.—The attorney general has decided the question of the practice of medicine requirements of the Indian Territory side of the state He holds that practicing physicians are not required to take out certificates of registration, for which a fee of $2 50 is payable, but are required to register, which does not require the payment of a fee

PENNSYLVANIA.

Measles Prevalent.—On account of the prevalence of measles in Iron Bridge and Lobachsville, the public schools have been closed

Personal.—Dr Daniel Dechert, Schuylkill Haven, whose arm was amputated on account of blood poisoning, is recovering —— Dr E P Darlington, Norwood, has gone to Arizona

Expenditures for Typhoid.—As the result of an investigation by the Pittsburg authorities, it was figured that the cost to Greater Pittsburg of typhoid fever for the year ended June, 1907, was $721,436

To Fight Tuberculosis.—To fight tuberculosis in Schuylkill County, a committee of 25 prominent professional and business men was named by the Schuylkill Medical Society, January 27 Judge A L. Shay, James B Reilly, President G D Farquhar of the Schuylkill Lawyers' Association and Dr Arthur B Fleming, Tamaqua, president of the medical society, head the committee

Hospital Notes.—Contracts have been awarded for the Oliver Annex to the Southside Hospital, Pittsburg, which is to be put up this year It is the gift of the Oliver estate and adjoins the present hospital buildings, and will cost about $200 000 ——A donation of $10,000 has been received for the North Scranton Hospital ——Two lots, 20x150 feet each, have been donated as a site for the Berwick Hospital

Relief Report.—The report of the Carnegie relief fund for 1907 shows that the distributions amounted to $216,764 05 divided as follows Accident benefits $17,545 15 death benefits, $130,449, and pension allowances, $68,769 90 Since the

Post-operative treatment—To prevent drops of urine entering the vagina and making the wound septic, it was drawn off morning and evening with a rubber catheter for about five days and the wound was douched and dressed twice a day with eusol lotion, the patient was discharged cured on 26th July, 1921

Remarks—

1 Vaginal tumours, especially of this size, are very rare

2 After the formation of the tumour, the patient was delivered of three healthy children, two of these, including the last, are still alive

3 The tumour, preserved in spirit, was sent to the Bassein Medical Association for examination and was found to be a Fibroma

A CASE OF GUMMA OF THE VERTEBRÆ

By G T BURKE, M.B (London),
MAJOR, I M S,
and
N C MITRA, M B (Calcutta),
late TY CAPT, I M S

D S, SEPOY, age 23 years, was admitted to 48th Indian General Hospital, Constantinople, on 28th June, 1920, complaining of pain in the chest and back and weakness of both legs, of gradual onset during the preceding month, during which period he had been losing weight and deteriorating in general health

His complaint of pain was not a severe one, and the pain appeared to be of the nature of a backache

Previous history—"Fever" in Mesopotamia 18 months ago, and "dysentery" six months ago

He denied all venereal infection

Family history—Nothing relevant

Condition on admission—A thin debilitated man, not anæmic, with normal temperature and pulse

Chest—A rounded, tense, fluctuating swelling at the right border of the sternum, opposite the 3rd and 4th ribs, about 1½ inches in diameter, slightly tender, attached to the bone The skin was freely moveable over it The patient stated that he had not noticed the existence of this swelling until it was pointed out to him here No spinal curvature was present, there was no local tenderness and spinal movements were not limited, but jarring on the head produced vague pain in the lower dorsal region

Heart and lungs—Normal

Abdomen—Spleen just palpable Nothing else abnormal detected Urine normal

Rectal examination—Negative

Lymphatic system—The posterior cervical glands of both sides, the right epitrochlear and the inguinal glands of both sides were enlarged and shotty

Nervous system—Cranial nerves were normal, also the fundus oculi on each side The pupils reacted both to light and to accommodation

Upper extremities—Muscles, reflexes and sensory system were normal

Lower extremities—Slight paresis and wasting of muscles of thighs and legs, with general exaggeration of reflexes, a brisk ankle clonus and almost a patellar clonus being obtained on each side, and Babinski's sign being present

The gait was distinctly spastic, there was no incoordination, but the patient was unsteady on his legs owing to muscular weakness

Sensation to touch blunted from the umbilicus downward, while sensations of pain and temperature as well as deep muscle sense were normal

Sphincter control was normal

Blood—Wassermann + + + +

Cerebro-spinal fluid—Clear and not under pressure Wassermann reaction + + with excess of globulins, and a cell count of 14 per cubic millimetre composed of lymphocytes only

A provisional diagnosis of syphilitic spinal meningo-myelitis was made, and it was decided, in view of the danger of a Herxheimer reaction, to give intravenous "606" very cautiously, preceding it by a short course of potassium iodide orally and mercury by inunction

Accordingly, from 30th June, 1920, he received grains x t d s, from 10th July, 1920, grains xx t d s of potassium iodide, continued till 14th July, 1920, he was also given a course of ten inunctions of mercury

During this fortnight, the weakness of the legs gradually increased, and on July 13th, he was found to have a distended bladder, which he could only partially empty He could then only move his legs with difficulty, and could not stand at all Both knee-jerks were still brisk and ankle-jerks were obtained, but ankle clonus had disappeared By 14th July, 1920, he had lost voluntary movement of the legs, and had definite distension overflow, with only partial emptying of the bladder All the deep reflexes of the lower extremities were completely lost Sensation was still as on admission, except that he complained much of formication There was slight œdema of feet and legs On 15th July, 1920, control of the rectal sphincter became affected, and by the next day control of both sphincters was quite lost

Kharsivan 0 15 grm was given intravenously on 15th July, 1920, and repeated on 19th July, 1920, 0 3 grms was given on 29th July, 1920 The knee-jerks returned after the first dose, control over both sphincters was regained, the bladder being almost completely emptied, and the œdema became less, but on 31st July, 1920, the reflexes were again lost, œdema began to return, and he shortly after lost control of his sphincters Pain in the sternal swelling much increased, and an incision was made into it under local anæsthesia, about an ounce of caseous material being scraped out On 18th August, 1920, 0 3 grms of kharsivan was injected intravenously and an hour later sufficient blood was withdrawn, 14 c c of the serum from which, after inactivation, was slowly injected intrathecally after withdrawing an equal amount of cerebro-spinal fluid

K. Bowles, president, Joliet, Ill. For the Medical Women's Club of Chicago, Alice L. Conklin, M.D., president, 100 State Street, Chicago.

FOREIGN

Spanish Antituberculosis Congress.—The first Spanish national congress to discuss ways and means to repress the spread of tuberculosis is to be held at Saragossa in October.

To Visit Chicago.—Dr. August Martin, professor of gynecology at the University of Greifswald, Germany, will visit this country next summer to attend the annual session of the American Medical Association.

Medical Study Trip.—A Paris organization has perfected arrangements to take a party of physicians through Italy in April and May for a medical study trip. Naples will be the most southern point visited.

Memorial Service for Lassar.—A memorial service for the late Prof. O. Lassar was held, January 20, in the amphitheater of his clinic under the auspices of the Dermatological Society. Rosenthal and Mayer delivered the main addresses.

The Final End of the Cancroin Suit.—THE JOURNAL duly chronicled the suit brought by Professor Adamkiewicz, formerly professor at Warsaw, against the firm of E. Merck of Darmstadt, claiming damages for non fulfillment of contract in regard to pushing the sale of his "cancroin" for the cure of cancer. He lost his suit, and the final court of appeals has confirmed the judgment of the lower court, based on expert testimony as to the worthlessness of the alleged remedy.

Fine for Exaggerated Claims for "Augenwol."—The local court at Chemnitz, Germany, has fined the business manager of the firm manufacturing "Augenwol" for the exaggerated claims made for this article, which is being extensively advertised in Germany. The medicolegal experts testified that it was entirely worthless and the price far in excess of the actual cost of the ingredients. "Augenwol" was stated to be merely a mixture of salt, boric acid, glycerin and alcohol, tinted and perfumed. A fine of $36.50 was imposed (150 marks).

Honors to Dr. Roberto Wernicke of Buenos Aires.—A recent issue of the *Semana Medica* of Buenos Aires is nearly all devoted to the ceremonies attending the presentation of the diploma of honorary professor conferred by the authorities on Wernicke in token of appreciation of his services to the city, the nation and the profession. His friends and students also presented him with a piece of statuary. He has been professor of general pathology for a number of years, and has always taken a prominent part in all measures for the welfare of the public and of the profession.

New Journal on the Heart, Vessels and Blood.—Professor Vaquez of Paris with Laubry and Aubertin, has founded the *Archives des Maladies du Cœur des Vaisseaux et du Sang*, to be published monthly by J. B. Baillière et fils, rue Hautefeuille 19, Paris, France, for 17 francs, about $3.40, a year. The first issue has been received and contains a study of the pharmacodynamic and therapeutic action of the nitrites, a study of the histologic action of the Roentgen rays in lymphoid leukemia, and an article entitled, "Les poisons alimentaires et athérome," by Professor Loeper. There is a department for abstracts of works on this specialty and a list of prizes offered by various scientific societies for works bearing on some phase of the subject.

Official Medicolegal Service at Rio de Janeiro.—Prof. A. Peixoto, one of the editors of the *Brazil Medico*, has been placed in charge of the newly inaugurated medicolegal department of the police service. The city is divided into six zones and a physician has been appointed for this service in each zone. There is besides this a morgue where autopsy of all deaths from violence is imperative, a central detention hospital for the insane and an establishment in the rua Mem de Sa, where the main offices, library, museum, rooms for gynecologic examinations and well equipped chemical and microscopic laboratories are installed. The library already contains 500 authorities on medicolegal questions. The department for chemistry and microscopy is in charge of Dr. A. de Andrade.

Typhoid Fever in Scotland.—A serious outbreak of typhoid occurred in the west end of Glasgow during the latter part of December and in January. Investigation showed that all the patients were receiving milk from the same dairy. Further investigation brought out the fact that the milk was procured from a farm in the neighborhood of Glasgow and that a young woman, a member of the family, was ill with typhoid. At first it had been supposed that the illness was influenza and later pneumonia was suspected, but careful examination showed that the disease was typhoid, the blood gave the Widal reaction. The farmhouse was thoroughly disinfected and the sale of milk therefrom stopped, but unfortunately, not before 69 cases of typhoid and several deaths had occurred in Glasgow.

Jubilee of the Norwegian Military Medical Society.—The twenty fifth anniversary of the founding of this society was celebrated at Christiania, Dec. 21, 1907, and two fine commemorative works were published. One contains the history of the association since its foundation and the work it has accomplished, and the other biographical sketches and portraits of the Norwegian medical officers in the military service, 1882-1907. After a festival meeting and announcement of gifts toward the accumulation of a jubilee endowment fund, the members adjourned to attend the jubilee banquet. The income from the endowment is to serve as prizes for important works published during the year and for loans or gifts to students making a specialty of military medicine or to members in need. The *Tidsskrift f. d. norske Lægefor.*, January 15, reports the proceedings in detail.

Robert Koch to Visit America.—A cable dispatch says that Koch is contemplating a trip to this country as part of a year's rest. He expects to start for New York early in April and visit Niagara, the Yellowstone, and other points of interest, striving to free his mind from all thought of science and medicine during a year of travel and mental rest. He is said to be looking somewhat worn from his strenuous year and a half in the heart of Africa, devoted to the study of sleeping sickness. He was 65 years old December 11, and first won fame by his publications on the bacteriology of anthrax, 1876. He received one of the Nobel prizes in 1905, and the German government has conferred honors and gifts on him so that the discoverer of the tubercle bacillus and the comma bacillus is now a rich man. His wife accompanied him on his scientific missions to Africa and will be with him in this country. He has refused all invitations to lecture, wishing to remain a spectator during this year of rest, which may include a trip around the world.

Foundation of International Health Office.—The International Conference which met at Rome Dec. 9, 1907, decided to found an international health bureau. Only thirteen of the twenty one states that participated in the Paris conference in 1903 took part in this last conference, Germany, Austria, Greece, Holland, Hungary, Luxemburg, Montenegro and Portugal not being represented. All the other European states were represented besides the United States and Egypt. The international health office was organized in accordance with the recommendations of the ways and means committee. The headquarters are to be at Paris, and the contracting states will contribute their share of the $30,000 required for its maintenance. The director of the health office is not to be allowed to fill any other salaried position. The *Semaine Méd.*, January 8, adds to its account of the conference the information that the diplomatic convention signed by the delegates to the recent convention is to remain in force for seven years and then for an additional seven years for each state that has not given official notice in the meantime of its intention of withdrawing from participation in the International Health Office.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Feb. 1, 1908.

Poisoning by Cocain

A woman in London died in a drug store on January 18, while under the influence of cocain which had been administered for extraction of teeth. The person who gave the drug was neither a registered dentist nor a druggist, with British qualification, but a Russian who had opened a drug store in that quarter of London in which aliens are most numerous. In cross examination it came out that Zeifert, the keeper of the drug store had administered cocain when extracting teeth many times. A verdict of manslaughter was returned against him.

Plague in West Africa

Prof. W. J. Simpson of King's College, London has been despatched by the British government to the West Africa Gold Coast to assist in combating the outbreak of plague which is raging in Accra. There is no reason to believe that the outbreak is unusually serious, but as it has occurred in a fresh place it is thought desirable that it should be dealt with at once. Plague broke out some time ago in South Africa and Professor Simpson was sent, and by prompt measures completely checked the outbreak. He is taking with him to the Gold Coast a considerable quantity of Haffkine's plague serum.

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INTRAVENOUS. **GALYL** IS THE SAFEST OF ALL ARSENICAL COMPOUNDS IN **SYPHILIS** INTRAM

(*Vide* Presidential Address, British Pharmaceutical Congress, 10th July 1918)

Therapeutics

[It is the purpose of this department to outline an up-to date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters, that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Lobar Pneumonia.

Although this is generally a self limited disease, and there is no specific treatment that can kill the pneumococci or curtail the systemic infection or hurry the resolution of the part of the lung involved, still it should be emphatically stated that the intensity of the symptoms can be modified, rarely the disease apparently aborted, and that many times life is saved by proper management. The word management is used to include nursing, diet, hygienic surroundings, physical therapeutic measures, and medication. It is just as absurd to declare that the pneumonia patient needs no medication and that nothing can be done for him medicinally as to throw down the reins of a runaway horse because he can not be stopped immediately.

While it has been lately disputed, statistics and observations seem to bear out the assertion that pneumonia has been more frequent and more fatal in the last two decades than before that time. As no acute disease puts more labor on the heart than does pneumonia, it is the heart that so frequently fails us, at first or at last, and sometimes all the time, in this disease. It would probably be untrue to assert that pneumonia is more virulent than it was or that the pneumococci are harder to combat, but, as the hearts of this age are weakened by continuous and unending nervous strain and excitation and by the frequent taking of coal tar preparations, this disease is more frequently fatal, as the hearts are unable to stand the strain. Also, while not more men smoke than twenty years ago, it is a frequent observation that more men who do smoke, do so excessively, and oversmoking leaves a heart unfit for the hard battle.

PROPHYLAXIS

The same precautions that are used and advocated to prevent the tubercle bacillus from living and thriving should be applied to the pneumococcus. This germ inhabits the damp, ill ventilated, dark and crowded tenements, and pneumonia has been shown by careful investigation in cities to occur in direct ratio to the crowding of the population, in other words, the more crowded the tenement or the more thickly populated the street, the greater the number of deaths from pneumonia. Pneumonia is a communicable disease perhaps as communicable as tuberculosis and certainly many more times communicable than cerebrospinal meningitis, and should be declared by boards of health "a reportable disease." Rooms and tenements in which pneumonia has occurred should be fumigated as carefully as is now done where there has been tuberculosis.

The pneumococcus has many times been found in the mucus of the mouth and throat but doubtless can not cause pneumonia until by some means it reaches the lungs. It seems to find its opportunity to cause infection when a patient is debilitated especially by a catarrhal inflammation of the upper air passages, or a bronchitis. Influenza often gives it its opportunity. While pneumonia often attacks a strong, healthy man or woman anything that tends to prevent recurring colds, tonsilitis, laryngitis or bronchitis tends to prevent pneumonia. In other words, the nose and throat should be made healthy.

Fresh, clean air in the sleeping room is as much a preventive of pneumonia as a preventive of tuberculosis.

CAN THIS DISEASE BE ABORTED?

Except in instances in which the sputum has been found to contain pneumococci, and, under measures instituted the congested lung has cleared up in a day or two, we are not justified in asserting that an attack of pneumonia has been aborted. On the other hand, with assistance and without assistance, we all see instances of congestion of one lobe of a lung occur, stop, and become normal in two or three days. Unfortunately, at this period of an apparent pneumonia there may be no sputum, and if there is, it is not examined for pneumococci, and it may not have been a pneumonia at all, but certainly it was a congestion of one lobe of a lung. Consequently an attempt to abort an apparent first stage of pneumonia should be made.

If the patient is strong, sturdy, and especially if he is plethoric, venesection will often give good results, and is positively indicated if there is marked dyspnea, if the heart is laboring, the head full, and the face congested, even if there is no actual cyanosis. Life has been saved by venesection done under the above conditions.

If the symptoms are not dire enough to demand venesection and for other reasons it is deemed inadvisable, which is generally the case, a full dose of an antipyretic drug, such as antipyrin, sufficient to cause profuse sweating, is good treatment, as

℞ gm
Antipyrini 1[or gr. xv
Fac chartulam 1
Sig. To be taken at once, with plenty of water.

Or, as this drug has a disagreeable taste

℞ gm
Antipyrini 1[or gr. xv
Fac capsulas 2
Sig. Take both capsules at once, with plenty of water.

Unless there is sufficient pain to require an immediate dose of morphin, calomel could be combined with the above powder, as

℞ gm
Hydrargyri chloridi mitis [20 or gr. iii
Antipyrini 1[gr. xv
Fac chartulam 1
Sig. Take at once with a cup of milk.

Or, if it is to be given alone

℞ gm
Hydrargyri chloridi mitis [20 or gr. iii
Sodii bicarbonatis 1[gr. xv
Fac chartulam 1
Sig. To be taken at once, with water or milk.

Or, 0.10 grams (2 grains) of calomel may be given with an aloin, belladonna and strychnia tablet.

If the pain is severe, morphin should not be delayed, but given, if necessary hypodermatically, in a dose sufficient to stop the pain, either ⅛ or 1/6 of a grain. It is better to repeat the dose of morphin when needed rather than give as large a dose as ¼ of a grain, which will, perhaps, produce more profound sleep than is desired. If morphin is given for the first acute pain, a saline purgative should be given on the following day. Over the part of the lung involved dry cupping some times seems to stop the pain and relieve the internal congestion. It also seems to require less morphin for the primary pain if hot fomentations (and none better than the flaxseed poultice) are used over the region of the lung involved. *Post hoc* or *propter hoc*, from the above treatment an apparent beginning pneumonia sometimes stops.

The older treatment with aconite and veratrum viride is undoubtedly often of value. They have come somewhat into disuse on account of the weak heart which so often is present

Indian Medical Gazette.

JANUARY

THE NEW YEAR

WE wish all our readers a Happy and Prosperous New Year At this time it is natural that we should strike a personal note and refer to our hopes and fears for the future

The Indian Medical Gazette, like many other institutions, has been affected by the war, and if at times our readers have thought that there was a falling off in the standard of excellence of the articles, we think that this did not occur to so great an extent as might have been expected The routine life of many of our contributors was sadly upset by the war, and even up till the present time conditions have hardly returned to the normal For their loyal support during a trying time, we desire to thank our contributors and readers, and we are glad to inform them that, in so far as can be judged by the test of circulation, the *Gazette* is rapidly and steadily increasing in popularity Without attempting to shirk responsibility for our own shortcomings, we maintain that the success of the *Gazette* depends much more on the work of its contributors than on the efforts of the editor For a time after the war, there was a temporary falling off in the supply of good original articles, but now we are in the happy position of having an exceptionally large supply of very valuable material on hand, and if our contributors find that their articles are not produced so promptly as they might desire, we crave their indulgence and assure them that the inevitable delay is not due to any lack of appreciation of their work Some of our most valued writers have retired from India, our greatest loss in this respect has been in the retirement of Sir Leonard Rogers, whose contributions to the *Gazette* constitute a marvellous record of his achievements in medicine But Sir Leonard has by no means finished his work, and we hope for many years to be able to place before our readers the products of his fertile brain, if not in the form of original articles, at any rate in the form of abstracts

Inexorable death has removed some of our most valued contributors, only the other day Lieutenant-Colonel Maynard, who was for many years associated with the *Gazette,* not only as a contributor, but also for a time as its editor, died suddenly shortly after his retirement.

But while our losses impress us greatly because they are dramatic and sudden, we should also think of our gains which are of gradual growth and therefore less striking The great Schools of Tropical Medicine of Calcutta and Bombay are recruiting a band of workers, some of whom have already made valuable contributions to medical science Young Indian medical men are showing a steadily increasing interest in research work, and if we were living in normal times we should have no reason for feelings of doubt or pessimism in connection with medicine in India

But even in the medical world there is unrest, in so far as this consists of a laudable desire for improvement in the education and status of medical men, it is a healthy sign and is far preferable to the attitude of fatalistic indifference that is supposed to be characteristic of the East But we earnestly appeal to all classes of medical men to agitate in a productive and constructive manner and to work together for the advancement of medical science Our aim should be to teach the public the elementary truth that in the long run they will get the class of doctors that they pay for Medical education is expensive, and the best class of men will not enter the profession unless their prospects are in keeping with the labour and expense involved The public must be asked whether they desire to have their lives and health entrusted to the cheap and indifferent doctors, or to men of the highest intelligence who can easily be secured if they are prepared to pay for them It is all very well to talk of the noble and sacrificing work of doctors, but human nature being what it is, the tendency will always be for young men to take to the profession that holds out the best prospects, and the public need not expect to obtain the highest class of medical aid by the cheap process of cajolery and flattery

Medical education in India, both in the schools and colleges, is capable of very great improvement, and we, as doctors, should never cease to agitate for higher standards of training, but, on the other hand, we claim that for the money that is spent, the people of India are getting very good value, and if they want improvement, it can only be obtained by improved organisation which has to be paid for

What we must do is to convince the public that we are worthy of better treatment and that we are prepared to give full value for every penny that is spent on us Any attempt to go ahead of public opinion by forcing the

sion that might well be made by many a paper if it had sufficient courage

The interesting point about this action of the *Modern Woodman* is that the advertising manager feels that the step is necessitated by his endeavor to assure to the readers a square deal from every advertiser He realizes that it is unsafe to count on any such thing from the average "patent medicine" or medical "specialist"

In contrast to the above action is the conduct of another fraternal paper, known as the *Royal Neighbor*, which is brought to our attention by a recent letter As our correspondent states the majority of the members of this order are women, and medical advertisers seem to think them easy marks, if we may judge by some very fraudulent advertisements found in this paper We would suggest to the members of the order represented by the *Royal Neighbor* that they call the attention of the proper authorities to the unneighborliness of this partnership with fraud carried on by their journal

WHAT IS HYDROCINE?

An Analysis of the "Hyper-Oxidized Hydro Carbon."

Hydrocine widely advertised as a consumption cure and belonging to the class that Samuel Hopkins Adams would designate the "fundamental fakes" has been analyzed by our chemists and found to consist chiefly of cane sugar This preparation was referred to in THE JOURNAL, Aug 17, 1907, and its evidently fraudulent nature commented on

In common with other members of its class, it is advertised as being an essentially non secret preparation and to bear out that claim, an involved and meaningless "formula" is appended Its promoters state that Hydrocine is "a vegetable hyper oxidized hydro carbon"—whatever that may mean Its "formulas" are equally enlightening We use the plural advisedly, as Hydrocine exhibits that fine fickleness and mutability of composition that characterizes nostrums of its kind Its early "formula" was as follows

Hyper oxidized hydro carbon (vegetable)	28	gr
Pure rock sugar	8	gr
Powdered pancreatin	1/20	gr

The oxids are liberated in the stomach and thrown into the circulation

For some unknown reason however this "formula" was changed before the edition of the pamphlet setting forth the wonders of the combination was exhausted "Formula" No 2 as printed on a "sticker" placed over "Formula" No 1, states that Hydrocine consists of

Oxidized carbo hydrates and essential oils	18½	gr
Mineral constituents	1½	gr
Pure rock sugar	9	gr
Powdered pancreatin	1/20	gr

Accompanying this later pamphlet—or more correctly, the earlier pamphlet with a later "formula"—is a circular giving the following enlightening information regarding the composition of Hydrocine

INGREDIENTS

> "Oil of cinnamon, conin peppermint spruce myrtle, chekan *marrubium myrrh turpentin. and thymol, with all toxic properties positively eliminated* The residue is highly oxidized mixed with oxidized sugar, pancreatin and pressed into a 30 grain tablet The oxygen is liberated in a nascent form and taken up by the circulation and thus enables patients to become saturated with the same in 30 minute doses"

This same circular also gives what purports to be a report of an analysis of Hydrocine Tablets which however, reads more as if it were a testimonial prepared at the request of the manufacturer in spite of the fact that it is written by a presumably reputable chemist Thus, while the report states that the tablets contain a certain amount of "aldehydes ketones and oxidized products from the bodies used" the chemist virtually acknowledges that these bodies were not actually determined by him In fact from the language of the report one is led to believe that he accepted the manufacturer's statement in regard to their presence. Of course, we do not know the composition of the hydrocine which the manufacturer submitted to this chemist for report, or the composition which hydrocine will have in the future The report of the analysis made for the American Medical Association by its chemists indicates the composition of Hydrocine such as is sent to physicians, and is, therefore, of interest *It is as follows*

> We have made a careful examination of the original package of Hydrocine and find that the average weight of the tablets is 29 5 grains Of this, 95 per cent, or 28 grains, of the total of 29 5 grains, is cane sugar Each tablet contains an average of 0 3 of a grain of a substance, insoluble in alcohol, containing nitrogenous matter The indications are that this substance may be very impure pancreatin, that is that this 0.3 of a grain may contain the 1/20 grain of pancreatin claimed to be present by the manufacturers It also contains very small quantities of aromatic oils, and it is probably due to the fact that these oils, like turpentine, react with oxygen that it is claimed that the vegetable matter is "hyper oxidized" The formula, however, mentions "hyper oxidized hydro carbon" Perhaps the manufacturers have reference to the rock sugar and mean carbohydrate, for there is probably no oxidation of the sugar, though it is probable that the aromatic oils present may be partially oxidized and changed in other ways after a time, but the "hyper oxidized hydro-carbon (vegetable) 28 grains" of the formula is an absurdity, particularly as the analysis shows that the tablet contains 28 grains of sugar We do not believe that it is possible for such a substance as turpentine, for instance, when in contact with sucrose (cane sugar) to act as an oxidizing agent

Apparently, therefore, the essential constituent of Hydrocine, as it is now offered to physicians, is cane sugar, and evidently this was the substance which was referred to as the "hyper oxidized hydro carbon" If, as indicated by the chemist's report the very learned (?) statements regarding the "hyper oxidized hydro carbons" or "oxidized carbo hydrates" may be reduced to the simpler statement "each 29 5 grain Hydrocine tablet contains 28 grains of cane sugar and small quantities of volatile oils and a trace of pancreatin"

Summary

To sum up, we have A preparation, shown by analysis to be 95 per cent. cane sugar, put on the market to be retailed at a cost of $8 a pound (avoirdupois) The claim is made that by giving this preparation in 30 grain doses to the extent of one and a quarter ounces daily, tuberculosis can be "permanently cured" in "from six to sixteen weeks" To impress the unthinking the main constituent in the formula is given a quasi scientific name, meaningless in import The exploiter of this "remedy" claims to have given up a practice yielding $10 000 annually "to spread the truth regarding this preparation"—and incidentally, we suspect to reap the benefits that must accrue from selling sugar at over $5 a pound, wholesale

Our chemist having translated for us into simpler language the statements as to the composition of the article, we, as physicians, should not find it difficult to interpret correctly the evidence on which the claims are based

One Newspaper Editor's Opinion of Kargon

Anaheim, Orange County, Cal does not occupy a very large place on the map, but it is to be congratulated on having a newspaper, the Orange County *Plain Dealer*, that is independent of "patent medicine" fakers It contains no "patent medicine" advertisements, and therefore, can speak its mind Some one has favored us with a copy of the January 25 issue in which the editor first quotes one of the very "taking" reading notices that tells of the wonderful preparation that will cure all diseases that is non secret that is not a "patent medicine" and in which "Compound Kargon"[1] is the "milk in the cocoanut" After quoting this advertisement, the editor makes these comments

We saw the above innocent looking little item floating through our exchanges and said to ourself here, we may help

1 THE JOURNAL A. M. A. March 16 1907 p 967

mistakes are inevitable, but between legitimate criticism and wholesale denunciation there is a world of difference

At the present moment, every thinking inhabitant of India must make up his mind, whether he desires revolution with its attendant horrors, or orderly progress towards complete self-government

We are not asked to decide whether we consider the present government to be the best of all possible governments, what we must decide is whether, in view of existing conditions, we are prepared to accept the existing administration or whether we know of a better system which it is practicable to introduce into India at the present time Medical men are accustomed to face facts and to distinguish between ideals and realities, and it seems to us that to attempt to destroy the existing government, in the hope that somehow a better government will spring up in its place, is very much like destroying the machinery and steering gear of a great steamship in mid-ocean, because we think we know of a type of engine better suited to the vessel The anarchist of criminal tendencies is a dangerous person, but he is much easier to deal with than the well meaning visionary who can only see his ideals but fails to face the realities that ruthlessly interpose between him and the attainment of his dreams Such a person has often the power of appealing to the imagination of the masses, he is like the performer of the rope trick who can persuade a crowd that they see a man climbing up an unsupported rope to the sky He bases his schemes on the supposition that the people of India and the people of surrounding countries are idealists like himself, and even when he is presented with the clearest proof that such is far from being the case, he persists in his course buoyed up with the hope that he will soon persuade the rest of the community to see visions and dream dreams like himself The existing government is based on the assumption that human nature will continue for some time longer to be the same as it has been for many thousands of years, and that a process of education and reform is possible without danger to the country, but that a system based only on ideals, even of the loftiest nature, is unsuited to existing conditions and will inevitably lead to untold misery and destruction

It is necessary for us to survey the situation with calmness and courage and to throw our influence in the direction towards which experience and reason point, and as the influence of medical men is out of all proportion to their numbers, it is hoped that their counsel and advice will have a steadying influence on the people in this critical period of the history of India Meanwhile, having done our best to oppose the force of reason to that of mass hysteria, we should go about our own work with calm fortitude, by doing so we shall set an example to the people who are tempted to desert their peaceful occupations and to pursue attractive chimeras

Doctors are accustomed, by their training and work, to exercise reason and calm judgment such qualities are the need of the moment rather than emotion and sentiment

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SNAKE-BITE IN INDIA

MAJOR KNOWLES, I M S, Professor of Protozoology at the School of Tropical Medicine of Calcutta, recently read a very interesting paper on the mechanism and treatment of snake-bite in India The paper consisted of a résume of the important work carried out by him and Major Acton, I M S, who is also now on the staff of the Calcutta School of Tropical Medicine

Major Knowles pointed out that the rat snake bites freely and viciously if disturbed and so do several other snakes which are either non-poisonous or slightly poisonous Cobra bite, even if untreated, has a mortality of about 40 per cent, though the cobra is *par excellence* the lethal snake of India From these facts it is easy to understand how so many snake-bite cures have come into vogue, as any treatment or no treatment at all will be followed by a large proportion of recoveries even if only the deadly snakes are taken into account

The most important group of poisonous snakes are the poisonous colubrines and the vipers to the former group belong the cobra, the king cobra and the kraits, to the latter belong the Russell's viper and the saw-scaled viper, the other vipers in India being rarely lethal to man

In the case of cobra bite, death is heralded by asphyxial convulsions, in the case of the krait, paralytic symptoms are more in evidence Experimentally, it was found that the amount of cobra venom injected at a successful bite averaged from 172 to 211 mgms, while in the case of one cobra the biting value of the venom reached the enormous figure of 587 mgms or about 40 times the minimum lethal dose for man

ESSENTIALS OF MILK HYGIENE. A Practical Treatise on Dairy and Milk Inspection and on the Hygienic Production and Handling of Milk for Students of Dairying and Sanitarians By C. O Jensen Professor in the Royal Veterinary and Agricultural College of Copenhagen Denmark Translated and Amplified by Leonard Pearson Dean of the Veterinary Faculty of the University of Pennsylvania. Illustrated. Cloth Pp 275 Price $2.00 Philadelphia and London J B Lippincott Co 1907

The importance of the proper supervision of the milk traffic is attracting wide attention and an English edition of this work of Professor Jensen, whose experience and standing lend weight to his views on many phases of the question, will surely be welcome Copenhagen has long been in the lead in the care of the milk supply, and is singularly fortunate in the possession of commercial concerns that, so far from being merely acquiescent followers in the matter, have done pioneer work, carrying their control to a point far in advance of anything contemplated by the public authorities

The subject matter of the book is divided into 1 Milk and its composition, 2, the injurious properties that milk may possess, 3, pasteurization and sterilization of milk 4, the use of milk for infants The first part is gone into with detailed completeness The physiologic chemistry is so lucidly described as to present no serious difficulties, even to those whose acquaintance with this comparatively recent science is of the most meager character In Part II, the addition of various substances, especially preservatives, the absorption of odors, and the transmission of infection by milk are considered. The work of the various observers on the relation of milk to tuberculosis is appraised with fairness Jensen discusses, in a very judicial and dispassionate manner, the dictum of Koch that bovine and human tuberculosis are not identical, and also the three important questions arising therefrom While he admits that the identity of the two kinds of bacilli is still an open question he gives cogent reasons for concluding that tuberculosis is undoubtedly not so infrequently caused by food as Koch affirms, that the transmission of human tuberculosis to cattle can be affected by inoculation, and that bovine tuberculosis is transmissible to man He discusses other diseases having milk as a possible means of infection either from disease in the animal or as a consequence of contamination from without.

Pages 157 to 237 are taken up with matter relating to the hygienic control of the production and handling of milk The standards and tests are clearly described as also are the detecting of adulterations and preservatives, and bacterial investigation An interesting feature is the appendices, and especially that containing the regulations governing the Trifolium Milk Supply Company in Copenhagen. The original text is elucidated and illustrated by notes and comments by Professor Pearson The entire subject is one of special moment to every physician

A VERY YOUNG OVUM IN SITU By Prof G Leopold Geheimer Medizinalrat Director of the Royal Gynecologic Clinic and School for Midwifery Authorized English translation by W H Vogt M D Gynecologist and Obstetrician to the Lutheran Hospital St. Louis Cloth Pp 69 with 16 lithographic plates Price $3 50 St Louis C. V Mosby Co 1907

This monograph is an exhaustive microscopic study of an ovum from a young woman who committed suicide by taking phosphorus After the organs had been hardened in formalin and alcohol repeated and careful examinations of the endometrium were made with a magnifying glass At first nothing was detected but finally a small spot was found, lighter than the surrounding tissue situated on the posterior wall of the corpus uteri This spot was carefully excised, hardened and cut into a continuous series of sections Examination showed that the middle 160 sections comprised a very small ovum measuring 1 4 mm long, 0.9 mm deep and 0 8 mm wide No positive information could be obtained regarding the exact age of the ovum The results of careful and exhaustive study of the 160 sections are embodied in the monograph, illustrated by 16 lithographed plates comprising 28 figures beautifully printed in colors The author sums up the results of his work as follows

The following are some of the points in which my views have changed as a result of the study of this youngest ovum and are now at variance with views formerly expressed the origin of Langhans' cells the decidua of uterine epithelium in the neighborhood of the ovum, the origin of the intervillous spaces, and a few others A further advance of our knowledge of this problem depends on the discovery of more very young human ova in situ, coming, if possible, from patients who have died suddenly, but not as suicides These specimens must be carefully preserved, painstakingly examined and microscopic pictures reproduced in illustrations which are true to nature"

OPERATIONS OF GENERAL PRACTICE. Edred M Corner M A. M C M.B (Cantab) B Sc. (Lond) F R.C S (Eng) and H Irving Pinches M.A. M B B C (Cantab) M R C S L.R C P (Lond) Pp 296. Cloth. Price $3 50 New York Oxford University Press, 1907

The object of this book is to bridge over the gap between the knowledge of the general practitioner and that imparted by elaborate text books of surgery As the writers state, "The education of the vast majority of medical men is deficient in the practice and performance of the many small operations which lie so largely on the borderland between medicine and surgery and which all practitioners are called on to perform frequently" The first chapter is devoted to general considerations, such as asepsis and antisepsis, sterilization, choice of instruments, suture material, different forms of dressings The use of the x ray in minor surgery is also considered. The second chapter is devoted to anesthetics and method of administration Then follow two chapters on surgery of the head and one on each of the following subjects neck, chest, abdomen male and female genitourinary organs, rectal region and the limbs No attempt is made to discuss the larger surgical problems or to give alternative methods of treatment, as the scope of the book does not admit of such discussion In the chapter on the neck, for instance, the following subjects are considered abscesses and cellulitis of the neck, carbuncles and boils, lipomata, tuberculous glands tracheotomy, laryngotomy, intubation and foreign bodies in the larynx, retropharyngeal abscess, tenotomy of the sternomastoid for torticollis The book is well illustrated and attractively printed and bound General practitioners who do not care to devote time to surgical work and yet are compelled to do occasional minor surgical work will find in this book much of interest and value

MINOR SURGERY By Edward Milton Foote A M M D Instructor in Surgery College of Physicians and Surgeons (Columbia University) Cloth Pp 752 with 407 Illustrations Price, $5 00 New York D Appleton & Co 1908

Dr Foote states in his preface, that his object has been to apply to the less serious every day problem of surgical practice the new knowledge which the discoveries of the last twenty five years have revealed The field of minor surgery, he says, is the only one which the average practitioner will ever enter It is also the one in which most of surgeons will find the majority of their patients, yet as he truly says, the physician, untaught regarding minor surgery, fails to achieve good results and performs more bad surgery on the hands than on the organs of the abdomen This statement will be endorsed by all those who have had occasion to review the surgical work of the average practitioner, yet what else can be expected when the average medical student is given abundant instruction regarding hysterectomy for carcinoma, an operation which he will probably never perform, and is told little or nothing regarding infections of the hand or foot which may come to him at any hour of the day Two things impress one in looking over this work The first is the absence of conventional and stereotyped consideration of the different subjects The second is the number and practical value of the illustrations A very commendable feature is the legend under most of the illustrations, giving some idea of the duration, severity, etc of the lesion portrayed For instance, one is marked, "Abscess under sternomastoid muscle Six months' duration, probably tubercular Patient aged 50 years" Another reads, "Abscess of neck Duration two weeks, secondary to pediculosis capitis occurring in child of 2 years" Four successive photographs of a patient with carbuncle of the neck show the beginning stage, two successive stages of inflammation and one of cicatrization To the general practitioner Dr Foote's book will be of decided and constant value

bite is infinitesimal Cultivators who are brought into close association with snakes and the people who walk about barefooted in the grass after dark run great risks, but those who are not compelled to interfere with snakes may assure themselves that they are not likely to die of snake-bite

It is rather sad to be compelled to abandon our faith in the Sir Lauder Brunton outfit which has been a source of comfort to hundreds of people, though it is very unlikely that it has saved half a dozen people in all The snake outfit of the future should contain a rubber cord, an ampoule of gold chloride solution, a hypodermic syringe and at least 200 c c of antivenene

For practical purposes the rubber band, the hypodermic syringe, and the gold chloride solution will suffice, these can be packed into a very small metal box which can be carried in the waistcoat pocket without inconvenience

Current Topics

The Dangers of Pituitary Extract

Some Clinical and Experimental Observations — M PIERCE, RUCKER, M D and CHARLES C HASKELL, M D, Richmond, VA

IN this interesting paper, the authors briefly relate how this new drug came into employment in obstetrics, in Germany, America, and other countries In certain countries its use became so common that it was adopted by even the midwives Then notes of warning followed one after another, till it is now recognised that the employment of this drug, even in safe doses and suitable cases, may occasionally entail danger, both to mother and child The injurious action on the mother is manifested by an increase in the frequency of perineal lacerations and the occasional occurrence of uterine rupture, in cases in which all the indications for the use of the extract are present

The dangers to the child consist in the greater tendency towards the production of asphyxia, and the occurrence of intracranial hæmorrhage

The so-called "physiological" standardisation of the drug is imperfect, inasmuch as the accepted method is based on the uterine action of the preparation, and may furnish no indication of the action on other structures Commercial preparations are likely to show quantitative and qualitative differences in action, regardless of the peculiarities of the individual patient

Considered as a whole, the action of pituitary extract is characterised by a stimulant action on the smooth muscle Pituitary extract constricts blood vessels, regardless of their nerve supply Thus, it is found that the pulmonary, cerebral and coronary vessels are apparently as markedly influenced as are the vessels in the splanchnic region The renal vessels are not constricted, indeed, dilatation from the rise in blood pressure is seen here The heart muscle is not acted on in the same way as the smooth muscle, instead of the stimulation that is seen in the case of the latter, the action of pituitary extract on the cardiac muscle is one of *depression* In the intact animal, this direct depressant action on the cardiac muscle is reinforced by the stimulation of the cardiac-inhibitory centre Indeed with some samples the inhibition of the heart from the stimulation of the centre may be the more important factor in the production of the cardiac weakening It is usually stated that the cardio-inhibitory centre is stimulated by the rise of pressure, but this is inadequate to explain the action in all cases In analysing the various effects on the circulation, it is apparent that the efficiency of the heart is lessened in three ways

First, there is the direct depression of the muscle, second, the rise of the blood pressure throws an additional load on the heart, and third, the constriction of the coronary vessels will lessen the flow of blood to the heart muscle, and in this way tend to interfere with its proper nutrition

Pituitary extract may be beneficial in the cases in which there is only undue vascular relaxation, when there is likewise cardiac weakening, it would seem to be distinctly contra-indicated The uterus is particularly susceptible to the stimulant action of pituitary extract A peculiarity of the action here is that the functional state of the organ influences the intensity of the action of the drug, this becoming more powerful with the progress of the pregnancy Ergot, as is well known, may cause a tetanic contraction of the uterus, with disastrous results Pituitary extract, on the contrary, it is asserted, tends simply to accentuate the normal movements of the organ The sequence of contraction and relaxation continues undisturbed, and the danger of tetanus is never encountered with any reasonable dose Attempts to demonstrate this action of pituitary extract by means of animal experiments have, in the authors' experience, invariably proved unsuccessful, both ergot and pituitary extract causing an increase in the tonus which was sustained, and leading to the development of small contractions superimposed on the tonic rise

In addition, the authors have been able to secure experimental evidence that a similar tetanising action is produced on the human uterus *in situ* Thus it is apparent that the circulatory action of the drug is undesirable, and that it tends to cause tetanus of the uterus in lower animals and also in human beings It is not, however, intended to convey the impression that the use of pituitary extract always results in a catastrophe, the vast number of cases in which there was no apparent injury renders this attitude absurd, it is believed, however, that there is always the possibility of harm resulting even

Trypsin in Treatment of Cancer E. v Leyden and P Bergell *Zeitschrift f klinische Medicine* vol lxi Nos 3 and 4 abstracted in THE JOURNAL May 4 1907 p 1556

Trypsin in Epithelioma of the Larynx H Dupuy *New Orleans Medical and Surgical Journal* July 1907 abstracted in THE JOURNAL July 13 1907 p 189

Trypsin Treatment in Malignant Disease A. Cutfield *British Medical Journal* Aug 31 1907 abstracted in THE JOURNAL Sept. 28 1907 p 1148

A Word for Trypsin A. K. Matthews *Medical Press and Circular* London Oct 2 1907 abstracted in THE JOURNAL Nov 2 1907 page 1562

Trypsin in Treatment of Cancer Abstract of paper read by W P Graves at meeting of Boston Medical Library THE JOURNAL Dec. 7 1907 p 1950

Trypsin in Treatment of Malignant Tumors W P Graves *Boston Medical and Surgical Journal* Jan 23 1908 abstracted in THE JOURNAL Feb 8 1908 p 479

Cancer Its Etiology and Treatment by Trypsin J Alcindor *British Medical Journal* Jan 11 1908 abstracted in THE JOURNAL Feb 8 1908 p 486

Of course the time since the introduction of the treatment is too short to form any very definite opinion as to the value of trypsin in the treatment of carcinoma. Reports seem to indicate that in many cases diminution in size of the tumor lessening of pain and removal of discomfort have followed the application of this method. *How far a natural tendency to cure of the disease in isolated cases* and to remission in others may be responsible for these results it is impossible to say The report from v Leyden s clinic indicates that while there may be great possibilities in trypsin or pancreatin the proper method of using it has not yet been learned W P Graves has used the ferment in a considerable number of cases but bases his conclusions on six cases of recurrent cancer all were observed for at least six months and most of them for fourteen months In all there was a gradual inevitable progress of the disease to a fatal termination in four two patients are living but will undoubtedly die within a few months In spite of this unfavorable result Graves has seen such improvement in the local condition as to encourage him to continue the treatment in suitable cases Experience so far gives no ground for expecting a cure or even a great prolongation of life but in view of the comfort which the reports indicate has been given to some patients by reduction of the local inconveniences a trial of the method may be justified in strictly inoperable cases in which other treatment is of no avail

DIPHTHERIA ANTITOXIN IN THE TREATMENT OF EXOPHTHALMIC GOITER

OMAHA, Feb 4 1908

To the Editor —Some time ago I reported several cases of exophthalmic goiter treated with diphtheria antitoxin with good results Have since treated two more cases results very favorable Will those who have used this method kindly report cases to the undersigned so that conclusions may be reached as to the value of the procedure? ADRIAN F BURKHARD
1902 S 17th Street

CASTORIA DECLARED A COMMON NAME

HOMESTEAD PA Jan 22 1908

To the Editor —Can you tell me the volume of the United States court decisions in which you found the opinion written by Justice Brewer holding that since the patent on the process of making Castoria had expired the name Castoria being the only name to designate the article became a common name and therefore free for use? Not knowing the year in which the decision was rendered, nor the names of the plaintiff and defendant I could not find it without looking over each volume in the series which would be a month s job D T POWELSON M D

ANSWER —The United States Court of Appeals Eighth Circuit, rendered a decision Jan 10 1898 in the case of Centaur Company vs Heinsfurter et al., in which the opinion was prepared by Circuit Justice Brewer which may be found in 56 U S App 7 28 C C A. 551 or 84 Fed. 955

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers U S Army week ending Feb 8 1908

Carter E C surgeon and Morse A W asst. surgeon appointed members of an Army retiring board at Fort Leavenworth Kansas

Talbott E. M asst. surgeon relieved from duty at Fort Leavenworth Kansas, and ordered to duty with the Army of Cuban Pacification

Miller F W asst.-surgeon relieved from duty with the Army of Cuban Pacification and assigned to duty as surgeon U S A. transport *Kilpatrick*

Bourke James asst surgeon relieved from duty as surgeon of the U S A transport *Kilpatrick* and ordered to Fort Leavenworth Kansas for duty

Munson E. L. surgeon left Fort Sheridan Ill on 10 days leave of absence with permission to apply for an extension of 20 days.

Tignor E P dental surgeon ordered from Fort DuPont, Del to Frankfort Arsenal Pa. for temporary duty

Whinnery, J C, dental surgeon arrived at Fort Liscum Alaska, for duty

Marshall J S., examining and supervising dental surgeon relieved from duty at the Army General Hospital Presidio of San Francisco Cal and ordered to proceed on transport sailing March 5 for Philippine service

Ames J R dental surgeon ordered from Onancock, Va , to Fort Leavenworth Kansas for duty

Hess J H examining and supervising dental surgeon relieved from duty at Fort Leavenworth Kansas and ordered to report for duty at the Army General Hospital Presidio of San Francisco Cal

Navy Changes

Changes in the Medical Corps U S Navy for the week ending Feb 8 1908

W A McClurg medical director commissioned medical director from June 16 1907

Orvis R T surgeon commissioned surgeon from March 1 1907

McDonnell W N P A. surgeon detached from duty at the Naval Hospital New York and ordered to the Naval Recruiting Station Chicago

Wheeler L. H asst surgeon ordered to the Naval Training Station Newport R I

Public Health and Marine-Hospital Service

List of changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Feb 5 1908

Stoner G W surgeon directed to proceed to Malone, New York for special temporary duty on completion of which to rejoin his station at Ellis Island N Y

Carmichael D A surgeon directed to proceed to Fort Stanton N M and St Louis for special temporary duty on completion of which to rejoin his station at Buffalo N Y, returning via Washington D C

Brooks S D surgeon granted an extension leave of absence on account of sickness for ten days

Young G B surgeon detailed to represent the service at the Third Annual Convention of the American Society of Inspectors of Plumbing and Sanitary Engineers to be held at Chicago Feb 10 12 1908

Sprague E K. P A surgeon granted leave of absence for 10 days from Feb 11 1908

Wickes H W P A surgeon granted leave of absence for two days from Jan 28 1908 under Paragraph 189 Service Regulations

Corput G M P A surgeon directed to proceed to Austin Texas for special temporary duty on completion of which to rejoin his station at Galveston Texas

McLaughlin A J P A surgeon relieved from duty at Naples Italy and directed to proceed to Manila P I reporting to the Chief Quarantine Officer for duty

Earle B H P A surgeon granted leave of absence for seven days from Feb 4 1908

Francis Edward P A surgeon, granted extension leave of absence for seven days

Boggess J S P A surgeon relieved from duty at St John N B and directed to proceed to Chicago reporting to the medical officer in command for duty and assignment to quarters

Foster A D P A. surgeon granted leave of absence for one month from Feb 10 1908

Spratt R D asst. surgeon leave of absence granted for 21 days from Jan 14 1908 amended to read for 11 days only

Wollenberg R A C asst surgeon relieved from duty at Ellis Island N Y and directed to proceed to Naples Italy for duty

Blount, B B., acting asst. surgeon granted leave of absence for 30 days from Jan 31 1908

Hicks W R acting asst surgeon excused from duty without pay Dec 15 to 23 1907 inclusive

Keatley E W acting asst surgeon granted leave of absence for five days from Jan. 14 1908 under Paragraph 210 Service Regulations

Moncure J A , acting asst. surgeon granted leave of absence for 30 days from Feb 20 1908

Walker R T acting asst surgeon granted leave of absence for four days from Feb 18 1908

BOARD CONVENED

A board of medical officers was convened to meet at San Francisco Feb 3 1908 for the purpose of making a physical examination of an officer of the Revenue Cutter Service Detail for the board Surgeon H W Austin chairman and P A surgeon C. H Gardner recorder

CASUALTY

Williamson Stacy D acting asst surgeon died Jan 25 1908

Health Reports

The following cases of smallpox yellow fever cholera and plague have been reported to the Surgeon General Public Health and Marine Hospital Service during the week ended Feb 7 1908

SMALLPOX—UNITED STATES

Alabama Mobile Jan 12 26 7 cases

California Los Angeles Jan 11 18 3 cases San Francisco Jan 11 18 5 cases

District of Columbia Washington Jan 12 27 15 cases

Georgia Augusta Jan 11 28 1 case (imported)

Illinois Chicago Jan 18 25 3 cases Springfield Jan 16 23 7 cases

Indiana Elkhart Jan 18 25 1 case Indianapolis Jan 12 19 1 case Terre Haute Jan 18-25 1 case

Kansas Topeka Jan 18 25 3 cases Wichita 4 cases

Louisiana New Orleans Jan 18 25 4 cases

Kentucky Lexington Jan 18 25 3 cases

Michigan Grand Rapids Jan 11 18 6 cases Saginaw Jan 11 25 36 cases

Missouri Kansas City Jan 11 18 2 cases St Louis Jan 18 25 5 cases

Montana Butte Jan 4 21 3 cases (from railway camps)

A Further Experience of the Conduct of Labour under "Twilight Sleep"

With Special Reference to its Use in Private Practice—By F W N HAULTAIN, M.D., F.R.C.P.

THE following is an extract from the above in the author's own words —

Since my previous paper, I have employed it in every case where the consent of the patient, *Hospital* or *Private*, was obtained—about 800 in all. The results have been correspondingly satisfactory in both.

In my last 150 private cases thus treated, 70 were primiparæ and 80 multiparæ. In the former there was complete amnesia in 80 per cent., and partial in 20 per cent. In multiparæ there was complete amnesia in 50 per cent., partial in 30 per cent., and no effect in 20 per cent., due to insufficient time for the action of the drug to take place, the labour having terminated so rapidly.

The treatment adopted in every case was the same. The injection of morphin ¼ gr. and hyoscine $\frac{1}{150}$ gr. given in primiparæ, when labour is fairly established, with pains regular and recurring at ten minutes' interval, and in multiparæ whenever definite labour pains are first felt. The patient is put to bed in a darkened room and her ears stuffed with cotton wool, so that her attention may not be attracted by anything. After three-quarters of an hour a further injection of hyoscine $\frac{1}{4}$ gr. is given, and repeated every hour till the labour is completed. Should she become noisy or restless after the second stage is reached, chloroform is given during the pains, as from the absence of self-control she may be difficult to manage. After the child is born, it should be immediately removed to another room to prevent its crying disturbing the mother during the third stage. She should be allowed to sleep till the effects of the drug have passed off—about six hours. When she awakens she is usually unaware she has ever been in labour, and is surprised to see the baby which she scarcely believes can be hers. The largest number of doses given was 53 to a primipara with a rigid cervix and strong labour pains, whilst the smallest number of doses which induced complete amnesia was 4.

It is essential to remember the absence of mental control, as much shouting and restlessness, though it conveys the impression of great suffering to attending friends, is out of all proportion to actual sensations. In one instance a patient though screaming at the top of her voice during each pain told me she was enjoying the screaming immensely and could not help it, no pain being mentioned.

Among obstetricians this mode of treatment has been decried in private practice, on account of the impossibility of giving personal supervision. This of course would be necessary if one followed closely the rules of Gause who regulates the dosage by the memory test. For practical purposes, such a regulation of dosage is unnecessary. Following the simple rule of letting the patient have an injection of $\frac{1}{150}$ gr. every hour, though perhaps not so scientifically perfect, is sufficient to acquire the benefits required without danger. This can be done by an intelligent nurse who is in telephonic touch with the doctor.

The employment of Twilight Sleep in private practice is ideal as regards surroundings of quietness to the patient and comfort to the medical attendant. So far as my experience shows, there is no risk to mother or child if the nurse carries out instructions by rigid adherence to Gause's method.

The only disadvantage is the presence of friends and relatives, who, from the symptoms of apparent suffering, are apt to enter the room and interfere with the nurse's duties by condoling with the patient or demanding that the doctor be sent for. They cannot be too rigidly excluded. Probably for this reason a number of Twilight Homes have been opened, and the subject thus exploited commercially. These, I feel, have materially influenced the medical profession against the advantages of the treatment, and they should be avoided as not essential.

So far as my experience goes and my statistics show, there is no risk either to mother or child.

In six cases labour was induced, in none of these did the child appear affected by the drug. Forceps were applied *thirty-nine* times in the 70 primiparæ and twice in the 80 multiparæ. This I do not consider as more frequent since the use of scopolamine, as I have always followed a rule of using forceps if the head is in the pelvis and the second stage has lasted more than three hours in a primipara and two hours in a multipara.

When the head fails to come through the brim in minor degrees of pelvic contraction, I prefer to wait much longer, to permit of head moulding, and in these cases I believe scopolamine is of the greatest advantage in diminishing the suffering during the long second stage. In a similar way, breech cases are assisted by allowing labour to painlessly proceed during the possibly long period of complete dilatation of the passages by the breech, and thus permit of rapid delivery of the head.

I have twice observed patients become so unruly as to be maniacal, trying to bite and refusing to lie in bed. In these cases chloroform was administered deeply, which quickly controlled the symptoms. Complete amnesia was present in both cases.—*Edinburgh Medical Journal*, July 1921—Vol. XXVII, No. 1.

Surgical Asepsis in Ophthalmic Operations

THE *American Journal of Ophthalmology* in an editorial in its September number points out that in general ophthalmic surgeons are less careful than general surgeons, in their aseptic technic. Few ophthalmic surgeons in the Eastern States of America at least, appear to wear masks when operating, and the Editor in a very pointed way shows how absolutely essential this must appear to every man, who considers how saliva and dust from the hair must shower on the face and eyes of a patient, from a surgeon who talks while operating, and who does not wear a cap and mouth mask.

He considers ophthalmic surgeons have been extraordinarily fortunate in the past, in that they have not had to regret this carelessness more.

The Erlangen Technique in X-Ray Therapy

THE following note on the Erlangen technique appears in a letter to *The Lancet* of October 1st, 1921, from J. Curtis Webb, Radiologist to the Gloucester Royal Infirmary.

Having just returned from Erlangen after a week of study of the methods of deep X-ray therapy as practised there, notably in the treatment of malignant disease, it might be interesting to others if I record my personal impressions. In the first place, the X-ray therapy devised by Prof. Seitz and Prof. Wintz differs radically from that generally practised in this country. In conjunction with the manufacturers, they have devised an apparatus and tubes capable, with suitable filtration, of giving out, and of sustaining, homogeneous rays—that is to say, rays the absorption of which (and therefore the therapeutic effect) is more or less uniform per centimetre of tissue traversed. They have been able, by the ionto-quantimeter, to ascertain the exact proportion of the skin dose that is absorbed at varying centimetre depths. They have demonstrated that there must be a *definite* unit skin dose (U.S.D.) which causes certain *definite* effects, and that there is a *definite* percentage of this U.S.D.

examined was 88, of whom 59 passed and 29 failed. The college and year of graduation for one candidate who passed was not given. The following colleges were represented:

PASSED			Year Grad.	Total No. Examined.
College				
Howard Univ., Washington	(1904)	(1906) (4	1907)	6
George Washington University			(1907)	2
Georgetown University			(1906)	1
University of Louisville			(1907)	1
College of P. and S., Baltimore	(2 1905)	(3	1907)	5
University of Maryland	(1905)		(1907)	2
Maryland Med. Coll.			(1907)	1
Baltimore Med. Coll.			(1907)	3
College of P. and S., Boston			(1906)	1
Johns Hopkins Med. School			(1907)	1
Leonard Med. School			(1907)	1
Syracuse University			(1907)	1
Columbia University			(1904)	1
Miami Med. Coll.			(1906)	1
Med. Coll. of Ohio			(1903)	1
Temple Coll. of Med., Phila.			(1906)	1
Woman's Med. Coll. of Pennsylvania			(1899)	1
University of Pennsylvania	(1899)	(1904) (1905)	(1906)	4
Jefferson Med. Coll.	(1901)	(1905) (1906) (7	1907)	10
Western Pennsylvania Med. Coll.			(1907)	5
Medico-Chirurgical Coll., Philadelphia	(2 1906)		(1907)	3
University of Virginia	(1906)		(1907)	2
University of Vermont			(1907)	1
University of Bukharest, Roumania			(1906)	1
University of Rome, Italy			(1899)	1
University of Vienna, Austria			(1906)	1
University of Switzerland			(1903)	1

FAILED			
Howard University, Washington		(1907)	1
Illinois Med. Coll.		(1901)	1
National Med. University		(1907)	1
Louisville Med. Coll.		(1907)	1
Kentucky School of Med.		(1907)	1
Maryland Med. Coll.	(1906)*	(3 1907)*	4
Baltimore University		(1898)	1
College of P. and S., Baltimore		(1907)	1
Baltimore Med. Coll.		(1907)	3*
Detroit Coll. of Med.		(1906)	1*
St. Louis Coll. of P. and S.		(1905)	1*
Medico-Chirurgical Coll., Philadelphia	(1905)	(1907)	2
Western Penna. Med. Coll.	(1906) *	(1907) (3 1907)*	5
Jefferson Med. Coll.	(1906)*	(1907)	2
University of the South		(1904)	1*
University of Vienna, Austria		(1903)	1
University of Naples		(1906)	1*
University of Rome, Italy		(1905)	1

At the examination held by the Homeopathic Medical Society at Philadelphia, December 3-6, the total number of candidates examined was 6, of whom 5 passed and 1 failed. The following colleges were represented:

PASSED			Year Grad.	Total No. Examined
College				
Atlantic Med. Coll., Baltimore			(1907)	1
Cleveland Univ. of Med. and Surg.			(1897)	1
Hahnemann Med. Coll., Philadelphia	(2 1906)		(1907)	3

FAILED			
Hahnemann Med. Coll., Philadelphia		(1907)	1*

At the examination held by the Eclectic Medical Society at Philadelphia, December 3-6, the total number of candidates examined was 6, of whom 5 passed and 1 failed. The following colleges were represented:

PASSED			Year Grad.	Total No. Examined
College				
American Coll. of Med. and Surg.			(1907)	1
Louisville Med. Coll.			(1907)	2
College of P. and S., Baltimore			(1904)	1
Maryland Med. Coll.			(1907)	1

FAILED			
Eclectic Med. Inst., Cincinnati		(1905)	1

* Second examination during 1907.

Another College Not Recognized.—We learn from Dr. W. T. Gott, secretary of the Indiana State Board of Medical Examiners, that recognition has been withdrawn from the Eclectic Medical College of Indiana, located at Indianapolis. Any students graduated there after 1908 will not be permitted to take the Indiana examination for license to practice.

A Stronger Medical Department at Tulane.—The Medical Department of Tulane University now has nearly a million dollars of endowment besides buildings and grounds valued at another half million. New buildings for the work of freshman and sophomore years are being erected on the university campus and the university is endeavoring to secure additional professors of high class ability, to devote their entire time to teaching and research. The last two—the clinical years—will continue to be given at the old site in connection with the Charity Hospital with its 900 beds, which receives $150,000 a year from the state of Louisiana.

Beginning with the present year the requirement for admission to the medical school is a four year high school course or its equivalent. This requirement, in 1910, will be further increased to include an additional year in the university in physics, chemistry, biology and languages.

The great advance at Tulane is most encouraging since it shows that in the movement to elevate the standards of medical education the South will do its full part.

Miscellany

A German's Impressions of American Medical Colleges

The European travelers who, after a brief visit to America, have published their impressions of our country, have been sufficiently numerous. They have usually found much to blame and little to praise in American life. It is gratifying, therefore, to read so just and so kindly an account of American conditions and especially of our medical institutions as that given by Friedrich Müller in an address to the medical association at Munich (*Münch. med. Wochschr.*, Nov. 26, and Dec. 3, 1907). He remarks that the traveler naturally expects to find many things altogether different on the other side of the ocean, and this expectation is fulfilled in many respects, but careful observation soon shows how closely related the two countries are in many respects. Especially is this so in regard to medicine. Müller says:

"The medical science of America is most closely related to that of Germany. We find there the same views, the same problems and the same sort of investigation and, if we except the language, a great part of American medical literature might have been written in Germany. While French literature in many departments of medicine, e. g., in the pathology of metabolism, is difficult for us to understand because it proceeds from quite different conceptions, American literature is closely bound up with the German and in spite of the difficulty which the German language presents to foreigners we find among American scholars and physicians an astonishing acquaintance with German medical literature. Without doubt American medicine stands in closer relation to German medicine than that of France or even of England."

"One may say that the American physician knows Germany and the German language better than the German physician knows America and the English language. Many German professors who have traveled in America in the last few years have lectured in the American universities in the German language and been understood by the students."

Müller then goes on to describe the universities and university life of this country. He notes that the universities are mostly institutions of general culture, founded as a rule by philanthropic individuals or benevolent corporations instead of by the state. This, he says, applies mostly to the eastern part of the country. The courses correspond to a large extent to German gymnasium instruction, but the students are allowed a freedom of choice of studies unknown in the German institutions. The money paid by the students goes largely to the payment of running expenses and the donations of the founders are expended in the erection of new buildings so that the professors receive but a meager compensation. He says:

"A change must be brought about in this respect or the attractiveness of the academic career for young men of ability, but slender means and the social position of the university professor will suffer. Energetic and talented young men will prefer to devote themselves to other pursuits which afford them better prospects of success. The patrons of the universities should consider that for the prosperity of a college the professors are of more importance than the buildings." He also says: "Alcohol plays no part in the life of the American university. In the dining halls only water and tea are served. It must further be emphasized that among the student body stricter views in regard to morals are prevalent than at many of our universities in the large cities, or even in those of France. Still, this is no peculiarity of the universities, but it is quite commonly recognized that especially in the life of the streets, on the billboards and exhibitions, as well as in the illustrated humorous papers everything that may be regarded as obscene is avoided. This may be due in part to stricter police regulations, but in reality it is the public itself, and

This treatment is of benefit in jaundice, especially the catarrhal form In this case the thickened bile is unable to escape from the gallbladder, and the effect of this medication is to restore its fluidity and so permit of its expulsion Then, again, in presence of liver congestion the powerfully cholagogue action of this remedy tends to relieve the tension and to restore functional equilibrium In hepatic cirrhosis this form of organopathy is of great benefit and the same may be said of its application in cases of hepatic insufficiency —Extracted from a paper by Louis Bignon, M D Specially reported for *The Medical Press and Circular*, August 3, 1921

The Uselessness and the Drawbacks of Antipyretic Drugs in the Treatment of Fever

By PAUL BLUM, M D,

Lecturer at the Medical Faculty of Strasburg

(Specially reported for The Medical Press and Circular)

ANTIPYRETIC drugs, unless employed in large doses and maintained continuously throughout the twenty-four hours, do no exert the influence on the course of the fever that they are supposed to have Prescribed as a rule in medium doses, given twice or three times a day, they have no action whatever on the temperature curve If, however, this should appear to be the case we shall find on taking the temperature at short intervals that it jumps up within a short time to a higher point than before, so that the average height of the fever is not modified

This absence of effect which must have been remarked by many a practitioner is fortunately without any bad effect on the patient. On the contrary, nature takes care to remedy our errors, *natura sanat* All the same, this absence of effect is awkward for the young practitioner on account of the general belief among the public that we must "bring down the temperature' at whatever cost. The temperature curve is about the only thing in the course of disease that the public can grasp, and they follow it with ever-increasing anxiety, with the inevitable consequence that the patient is repeatedly disturbed for no useful purpose, and when the temperature remains monotonously high the doctor is thought to be unequal to his task

No doubt the fever *per se* may become dangerous if prolonged and persistently high, but if it be prolonged this means that the organism, the *vis medicatrix naturæ* finds it necessary, and it is a mistake for us to seek to deprive nature of one of its means of defence. Along with phagocytosis and the neutralisation of toxin fever is one of the three major means at nature's disposal for fighting the agents of infection

What, then are we to do in the presence of a pyretic disease? Evidently if we have a specific serum we shall make use of it. Failing such we must imitate nature We should therefore advise sudorific drinks and saline laxatives We must get out patient to perspire we can stimulate the urinary secretion by the aid of lactose, urotropine and theobromine, the functions of the liver by small doses of calomel, the pulmonary secretion by the aid of acetate of ammonia We can act on the nervous system by tepid packs, and if the fever be accompanied by headache we can apply cool, moist compresses to the forehead and bathe the forearms in cold water In this way we can add to the comfort of the patient without interfering with his 'cure" The one maxim which should never be lost sight of is *primo non nocere*—*The Medical Press*, July 27, 1921

Cholera Vaccine

OSCAR TEAGUE, M D,

New York

CHOLERA vaccine was the first of the bacterial vaccines used on a large scale with the idea of preventing a specific disease in human beings Ferran, during a severe cholera epidemic in Spain in 1885-86, administered living cholera spirilla subcutaneously to about 40,000 persons without obtaining convincing evidence of protection In 1894-95, Haffkine, using more accurate methods, vaccinated about the same number of persons in India, and his statistics of the incidence of and mortality from cholera among the inoculated and uninoculated indicated a certain degree of protection in the former He injected subcutaneously first a living, attenuated culture of *Spirillum choleræ*, and one week later, a living culture of the same organism whose virulence for experimental animals was maintained at a high degree The experiments of Ferran and Haffkine were of fundamental importance in that they furnished the basis on which was built the prophylactic immunization against bubonic plague and typhoid fever

Since Haffkine's time a number of different methods of preparing cholera vaccine have been recommended As different epidemics of cholera vary enormously in both virulence and duration, it is obviously very difficult to compare the protective value of one vaccine with that of another employed during a different epidemic, hence it would seem logical to regard the vaccine most generally used as a standard and to use this in the same epidemic as a measure of any new vaccine whose merits are to be determined It would seem inadvisable to recommend any cholera vaccine for general use until such parallel tests have been carried out under satisfactory conditions The standard cholera vaccine at the present time would consist of a culture of *Spirillum choleræ* grown on nutrient agar suspended in physiologic sodium chloride solution, and killed by heating one hour at 53 C The vaccine made at the government laboratory in Bombay contains 8,000 million organisms per cubic centimeter, 0 5 c.c is administered subcutaneously at the first dose, and 1 c c as the second dose. It is being issued in increasing amounts in India year by year, and the few reports that are published are distinctly favourable The local and general reactions are mild The contraindications to its use are those that have been described for the typhoid vaccine

During the World War, several millions of men in the Austrian and German armies were given cholera vaccine (cultures killed by heat), and thousands of them, particularly the Austrians, spent months in districts where cholera was prevalent It was considered that the relatively small amount of cholera in these armies was due in large measure to the vaccinations and the appearance of a much higher percentage of cases in certain groups of Austrian soldiers that had not been inoculated lent additional evidence to this view

It may be considered, then, that the administration of two (or three) suitable doses of cholera vaccine offers a marked degree of protection against cholera during the three months following vaccination, and perhaps some protection for six months or longer This protection is not absolute some of the vaccinated contract cholera It is asserted by a number of observers that cholera in the vaccinated runs a milder course than in the uninoculated, but further evidence seems necessary to establish this Cholera carriers have been inoculated without untoward effect, but the duration of the carrier state is apparently not shortened thereby

On account of the acute onset and rapid course of the disease, one would not expect any benefit from the treatment of cholera with cholera vaccine.—*The Journal of the American Medical Association*, January 22, 1921

The Use of Vaccines in the Prevention and Treatment of Influenza and its Sequels

FREDERICK P GAY, M.D,

Professor of Pathology, University of California Medical School, Berkeley, Calif

IT was natural from the beginning of the present pandemic of influenza that, with the apparent assur-

The architectural magnificence of some American medical schools and the munificence with which some of their departments are equipped are also described The custom of employing skilled preparers of specimens, which economizes the time of the head of the department, is especially commended The inconvenience of having much of the clinical instruction done at a long distance from the school is noticed and the example of Johns Hopkins with its own hospital and dispensary is commended

The typical American hospital is described and the condition of the patients contrasted with that of Germany, which provides fully for its working classes through its insurance law, but makes rather inadequate provision for those who are able to pay moderate hospital fees The plan of medical attendance is discussed and its advantages and disadvantages clearly pointed out The training schools for nurses are noticed and the statement made that on the whole nurses in America receive a better training than in Germany The work of the pathologic institutes of the hospitals and of the independent medical institutes is appreciatingly described.

The position of the American physician is rated as about the same as in Germany Overproduction has led, in Müller's opinion, to a reduction in the income of physicians, which is often smaller than in Germany, although the cost of living is higher Müller does not encourage dissatisfied or ambitious German physicians in the idea that they will find an easy road to a lucrative practice in America, since the public demand for educated physicians has produced a generation of American physicians as well educated as the German, against whom they are fully able to hold their own The custom of country physicians of seeking postgraduate instruction in the cities and the postgraduate schools which have sprung up to meet this need are noticed, as also the employment of assistants by physicians in large cities, and the systemizing of records by card indices and other devices is described

Our former visitor concludes "Every American is possessed of the proud consciousness of belonging to a great nation which is called to a high destiny and which will some time cast all the other nations in the shade by its mighty development This youthful enthusiasm, this joyful energy is indeed a powerful lever of progress That slowness which many of our newspapers assert rules in Germany would be sought in vain in America But these journals do us wrong when they speak of pessimism The regard and the sincere friendship which the educated American feels toward the German people and especially toward German science rests rather on the fact that he also esteems us a nation devoted to progress which is not willing to rest contentedly on what it has already accomplished

"Travel begets modesty It is well to convince oneself that in foreign lands and on the other side of the ocean men dwell who order their affairs as well and in some respects better than we Self contentment and overestimation of one self flourish nowhere better than in the narrow circle of one's home"

Marriages

GEORGE RAYMOND PRAY M D, to Miss Zoe King Porter, both of Jackson, Mich, February 1

CALEB W G ROHRER M D to Miss Emma Marie Albrecht, both of Baltimore, January 29

CLYDE R. MCKINNISS M D, Norristown, Pa, to Miss Virdie L. Fyman of Columbus, Ohio, January 25

FRNEST LINWOOD CHENEY M D., Duluth, Minn, to Miss Grace Lillian Hinckley of Chicago February 5

LOUIS WARDLOW MILES Ph D, M D, to Miss Katherine Wistar Stockton, both of Princeton, N J, January 25

W EDGAR CUNNINGHAM, M.D, Richmond, Cal, to Miss Edith Cecilia Treanor of San Jose Cal January 24

FRANK PARKINSON AULD M.D, Shelbyville Ill, to Miss Catherine Agnes Price of Maplehurst, near Shelbyville, Ill, January 1

Deaths

Andrew Boelus Brumbaugh, M D University of Pennsylvania, Department of Medicine, Philadelphia, 1866, of Huntingdon, Pa, a member of the American Medical Association, one of the founders of and lecturer on hygiene in Juniata College Huntingdon, surgeon of the Pennsylvania and Huntingdon & Broad Top railroads, medical inspector for the Department of Health of Pennsylvania, a member of the American Association of Railway Surgeons, the pension examining board and the local board of health of Huntingdon, physician at the Orphans' Home for 27 years, a member of the State Editors' Association, was seized with appendicitis January 22, was operated on at the hospital of Dr Price, in Philadelphia, two days later, and died from peritonitis January 27, aged 71

William Randolph Steinmetz, M.D Georgetown University School of Medicine, Washington, D C, 1865, University of Pennsylvania, Department of Medicine, Philadelphia, 1868, who served as a private, general service, and hospital steward throughout the Civil War, was commissioned lieutenant and assistant surgeon in the Army in 1868, was promoted to captain in 1871, was retired on account of disability from injury in the line of duty in 1891, and made major and surgeon (retired) in 1904, died at his home in Baltimore, January 26, from disease of the stomach, after an illness of more than a year, aged 72

Joseph Thomas, M.D University of Pennsylvania, Department of Medicine, Philadelphia, 1856, a member of the Medical Society of the State of Pennsylvania and Bucks County Medical Society, surgeon of the One Hundred and Eighteenth Pennsylvania Volunteer Infantry during the Civil War, president of the First National Bank of Quakertown, a member of the board of trustees of the State Hospital for the Insane, Norristown since 1889, and its president since 1899, once state senator, died at his home in Quakertown, January 28, from kidney disease, after an illness of two weeks, aged 77

Andrew W Riley, M.D New York University Medical College, New York City, 1880, a member of the American Medical Association, one of the founders of the Omaha Medical Society, a prominent practitioner of Omaha, chief of staff of St Joseph's Hospital, and lecturer on the practice of medicine in the John A Creighton Medical College, Omaha, died at his home, January 21, from septicemia following erysipelas, contracted in line of duty, after an illness of one week, aged 49

John Anderson Reed, M.D University of Pennsylvania Department of Medicine, Philadelphia, 1866, a member of the American Medical Association, for more than 20 years a practitioner of Maysville Ky, president of a bank in that city, chairman of the Mason County board of control of the Society of Equity, prominent as a physician and business man, died at the hospital of the University of Pennsylvania, Philadelphia, January 25, after an illness of two years, aged 64

Leonidas H Laidley, M D Jefferson Medical College, Philadelphia 1868, Bellevue Hospital Medical College, New York City, 1872, a member of the Missouri State Medical Association and St Louis Medical Society of Missouri, professor of gynecology and pelvic surgery in the Marion Sims Beaumont College of Medicine, St Louis, and medical director of the Louisiana Purchase Exposition, died suddenly in St Louis, February 5, from cerebral hemorrhage, aged 64

David S Hoffmann, M D University of Pennsylvania, Department of Medicine, Philadelphia, 1874, a member of the American Medical Association, local surgeon at Lake City, Colo, of the Denver & Rio Grande Railroad, surgeon to the Lake City Hospital, register of the United States Land office, and a member of the legislature in 1883, died in California, from disease of the stomach, January 29, aged 56

Samuel F Wentworth, M.D Dartmouth Medical School, Hanover, N H, 1862, one of the founders of the University of Minnesota, College of Medicine and Surgery, Minneapolis, and professor of dermatology at that institution, for several years surgeon of the Minneapolis & St Louis Railroad, died at his home in Minneapolis, January 29, from bronchial pneumonia, aged 71

John J Green, M.D Western Reserve University Medical College, Cleveland, 1870, a member of the Medical Society of the State of Pennsylvania and Allegheny County Medical Society, a veteran of the Civil War, who was struck by a street car January 24 breaking one rib and sustaining internal injuries, died at his home in East End, Pittsburg, January 27, aged 62

Edward L Elrod, M D University of Louisville (Ky) Medical Department, 1888, a member of the American Medical

animal charcoal to insure the absorption of the poison left in the body This takes the place of the old antidotes, although there is nothing to hinder any of the usual antidotes being added to the water for the rinsing procedure Adler published at Prag in 1912 seven cases of phosphorus poisoning, three of morphin and others of poisoning with mercuric chlorid arsenic, absinthe, etc., a total of 30 cases in 22 of which the outcome would most certainly have been fatal without this absorbent action Klemperer advocates in every case of poisoning of not more than two hours duration to begin with the lavage and then introduce into the stomach two tablespoons of finely pulverised animal charcoal, combined with 30 gm of magnesium sulphate If too late for the lavage he gives this mixture at once in ½ liter of water by ingestion or through a tube Klemperer advises to give a saline purge at the same time, but Cheinisse recalls Lubenetzky's statements that castor-oil is a better purge under these conditions, as the accumulation of fluid in the bowel is liable to prove injurious Be this as it may, Klemperer up to October 1920, had a record of 25 grave cases of poisoning with mercuric chlorid arsenic lysol phosphorus and cyanid of potassium, without a single fatality under this treatment The heart should be supervised, but the charcoal is the only antidote to rely on In conclusion Cheinisse reiterates that the charcoal is liable to prove as effectual against autogenous toxins as against the exogenous, especially in enteritis diarrhea etc, from 20 to 30 gm of the charcoal may ward off serious injury Cheinisse adds that the above does not refer to corroding acids or alkalis these of course require neutralising with magnesia or with dilute acetic or citric acid—*The Journal of the American Medical Association* January 8 1921 (From *Presse Medicale*, Paris, Nov 20, 1920, 28, No 85)

Serum Treatment of Bacillary Dysentery

SIMON FLEXNER, M.D,
New York

BACILLARY dysentery occurs in all countries, but it is more frequent in tropical than in temperate climates and prevails little or much according to the state of sanitation of the region The dysenteric bacilli are taken into the stomach with food or drink to which they have gained access directly or indirectly, from the feces of cases of bacillary dysentery or from carriers—convalescent or healthy—of the bacilli In mode of communication, bacillary dysentery resembles typhoid fever, but it is not preventable by vaccination as is the latter disease because of the severe local reaction that the injection of killed cultures of dysenteric bacilli sets up

VARIETIES

Two groups of dysenteric bacilli exist The first was discovered by Shiga in Japan and bears his name, the second by Flexner in Manila. All Shiga bacilli are identical, but there are several kinds of Flexner bacilli, distinguished from one another by minor cultural and immunity reactions The distinction between the Shiga and Flexner groups of bacilli is, however, far greater thus, while all the Flexner group react immunologically more or less to a serum prepared from one of its members, this immune serum has little effect on Shiga bacilli, and *vice versa* In one essential respect all the dysenteric bacilli agree, namely, in inducing in man the symptoms and intestinal lesions of dysentery, which sometimes are mild and sometimes severe. Both groups of bacilli are alike in this action, but infection on the whole with the Shiga bacilli tends to be more serious than infection with the Flexner group of bacilli

TOXINS

The Shiga bacilli yield two toxins one soluble, which is quickly passed into the surrounding medium, so-called exotoxin and one more closely fixed to the cell protoplasm, so-called endotoxin When both toxins are injected into the rabbit, it the first attacks central nervous system and the second attacks the intestinal tract The Flexner bacilli yield only an endotoxin

ANTISERUMS

These are neutralizing for the poisons and protective against infection with the living bacilli These may be applied separately in the treatment of dysenteries induced by the Shiga or Flexner bacilli, respectively as determined by precise bacteriologic examination, or after mixing together in cases of bacillary dysentery in which the particular infecting bacillus has not been thus determined Such a mixed serum yields the so-called polyvalent antidysentery serum which, if potent should contain antibodies for all the toxins contained in the Shiga and Flexner groups of bacilli

SERUM TREATMENT

Like all other acute infectious diseases subject to serum treatment, the earlier the antidysentery serum has been applied in the course of the attack, the more striking and convincing the result The precautions to be observed in the administration of the serum are identical with those practiced with other antiserums and consist of cleanliness of operator and patient sterility of syringe and other apparatus employed, and protection against hypersensibility (anaphylactic reaction)

The antiserum is as a rule, injected subcutaneously but may be injected intravenously when indicated in very severe cases The dose varies with the age of the patient and the severity of the symptoms The average dose for an adult is 20 c.c., for a young child 10 c c But in very severe cases the dose, given intravenously ranges from 50 to 100 c c.

In cases of ordinary severity, a single subcutaneous dose may be followed by such marked alleviation of the symptoms as not to call for repetition In other and severer cases, the dose may need to be repeated in from twelve to twenty-four hours, and again in forty-eight hours

The effects of the injection of the serum tend to appear promptly They consist first in the amelioration, often within a few hours, of the nervous symptoms and the general prostration Usually within twenty-four hours the tenesmus and colic disappear and the stools become markedly reduced in number Along with this improvement there goes diminution in the blood and mucous content of the discharges, coincident with which there is a return of their feculent character According to the severity of the attack, the stools return to normal in from two to five days

Acute cases of bacillary dysentery are especially subject to the serum treatment but cases in their second to third week may still be favourably influenced, as may also relapses in the course of convalescence from acute attacks On the other hand chronic cases and the recrudescences in the course of chronic dysentery even if originally induced by the dysentery bacilli, do not as a rule respond to the serum

It should be added that the employment of the serum does not contraindicate the usual eliminative and dietetic forms of treatment

SERUM PROPHYLAXIS

The polyvalent antidysentery serum may be used to prevent infection with dysenteric bacilli Perhaps the especial circumstances under which this mode of use is indicated is in institutional outbreaks of the disease The usual prophylactic dose is 5 c c, injected subcutaneously It is important however, to bear in mind that the protection thus afforded endures only twelve to fourteen days

SERUM DISEASE

The administration of antidysentery serum as of all other serum prepared in the horse, may be followed by the symptoms of serum disease These symptoms, while sometimes producing discomfort, are not serious and are to be combated in the manner followed in other and more familiar instances (as diphtheria) which they arise.—*The Journal of the American Medical Association*, January 8, 1921

Charles Crawford Hindman, M.D Jefferson Medical College, Philadelphia, 1876, died at his home in Dubois, Pa, January 24, from influenza, aged 54

Robert D'Unger, M.D Eclectic Medical College of Philadelphia, 1859, died at his home in Chicago, January 30, aged 83

Deaths Abroad.

H. Snellen, M.D, formerly professor of ophthalmology and director of the eye clinic at Utrecht, one of the leading ophthalmologists of his day, died January 18, aged 73 His test types and other devices for testing vision are in almost universal use, and numerous operations for ectropion, tenotomy, etc., were invented or perfected by him It was in his honor that the International Congress of Ophthalmology in 1899 was held at Utrecht Nine years ago he resigned his chair and director ship in favor of his son, H Snellen, Jr

Sir Thomas McCall Anderson, M.D Glasgow (honor), 1858, regius professor of medicine in the University of Glasgow, formerly lecturer on the practice of medicine in Anderson's College, Glasgow, professor of clinical medicine in Glasgow University from 1874 to 1900, then professor of the practice of medicine physician to the Glasgow West Infirmary, formerly dean of the medical faculty of the University of Glasgow, and some time president of that university, died suddenly from heart disease, January 25, aged 72

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION POSTGRADUATE WORK, CONTRACT PRACTICE INSURANCE FEES LEGISLATION, ETC

THE PROFIT-SHARING PLAN

How Some Unthinking Physicians Are Suborned to Push Nostrums.

In the development of the nostrum business, all kinds of advertising devices and methods of attracting the patronage of physicians have been utilized by enterprising, though often somewhat impertinent, advertising managers Souvenirs, useful and decorative articles of all sorts, blotters *ad lib*, calendars *ad nauseam*, have all been employed in turn. The facsimile letter, the follow up system, the personal call of the friendly and learned detail man, even the establishment, publication and distribution of "medical journals" which possess no paid subscription list—all these have been employed, and as fast as a new advertising scheme has been developed it has found a host of imitators

It has remained for recent years, however, to develop the choicest advertising scheme of the entire nostrum business, namely, the "profit sharing" plan, by which "stock" is sold to physicians or is handed out to them as a reward for prescribing the wares of the company In some cases the "stock" has been sold under the plea of "professional cooperation" or "giving the doctor the profit instead of the druggist," etc. This plan, beside holding out the always alluring prospect of "dividends" and "profits on investments," possesses a practical advantage, from the manufacturer's standpoint in that each physician who invests is converted into a drummer for the house

These reflections are suggested by the following notice which is appearing in the "Roster of the Philadelphia County Medical Society"

SHARE-HOLDING IN NOSTRUM COMPANIES BY PHYSICIANS TO STOP

"Section 1 of Article 1 of the by laws of the Philadelphia County Medical Society provides that any physician who shall procure a patent for a remedy or who shall give a certificate in favor of a patented or proprietary remedy or patent instrument, or who shall enter into an agreement with an apothecary to receive pecuniary compensation on patronage for sending his prescriptions to that apothecary, shall be disqualified for becoming or remaining a member

'The holding of shares of stock in a company, to make or deal in patent or secret remedies is, therefore incompatible with membership in the Philadelphia County Medical Society This notice shall be printed in three successive issues of the weekly roster

The foregoing action adopted at the annual meeting on January 15, means expulsion of offenders from the county society, the state society and the American Medical Association after expiration of the three notices mentioned"

THE GIRARD COMPANY

One of the most brilliant examples of this method of doing business is that of the Girard Chemical Company, a firm located in Philadelphia This company sent to physicians a pamphlet called "The Physician's Record" This pamphlet contained a liberal supply of blanks, each containing the names of the preparations of the company, with a space opposite each name for each day of the month The physician is supposed each day to record on this blank the nostrums he prescribes, and to return it monthly to the office of the company He is then credited with 25 per cent of the wholesale price of the remedies prescribed, redeemable in the stock of the company The circular says "The plan is an equitable one The stock allotted will be in proportion to the interest [in the company, of course] manifested by each individual physician." Translated into ordinary English, this means that the amount of stock which the physician gets is exactly in proportion to the extent to which he is willing secretly to use his patients for his own profit

A charming variation introduced by this company is a postal card on which is printed a glowing endorsement of the nostrums manufactured by the company Under the endorsement is the following "You may send me a full trial box and samples without cost to me," with a space for the signature of the physician to whom the card is sent Of course, the doctor, in order to get a free sample, has to sign an endorsement and recommendation of preparations which he has probably never seen, but such a trifle is hardly worth mentioning The use to which the endorsement will be put later can be imagined

Among the preparations manufactured by this company and listed in their literature are the following

Nuxpeptyn	Girard Laxative Pills
Nuxpeptyn Aurin.	Creta Methyl
Nucle Ferri Mangan.	Lignol
Cuca Vin	Lignol Capsules
Algicide	Lignol Ointment
Girard Uterine Tonic.	Lignol Suppositories
Col Bry Lith	Lignol Soap

The physician who accepts this kind offer to act as a drummer for soap at so much a cake, and whose commission depends on the amount of soap he is able to induce his confiding patients to purchase, takes his profit out in the form of stock of the company that makes the soap That is, he does if he can sell enough soap to secure a stock certificate Physicians also advise their patients to eat certain kinds of food and to wear certain articles of clothing, but we have yet to learn of a grocery store offering a physician a commission on the grocery bills of the various families, or of a clothing store offering a physician an interest in the business if he will recommend a certain kind of wearing apparel This teaches us that drug firms are much more enterprising than grocers or clothiers

The following letter from this company to its "stockholders" is certainly calculated to cause the heart of a physician to swell with pride, that such a communication should be addressed to any member of our profession by a nostrum manufacturer Notice the way in which the Girard Company cracks the whip over the heads of the physicians who have accepted this offer of stock. Also notice the veiled threat in the fourth paragraph, which is held over the heads of the luckless "subscribers" who are not working with sufficient enthusiasm "to further the interests of the company"

Dear Doctor and Stockholder—Enclosed herewith we hand you statement of your special certificate which is being paid for by dividend credits.

We think by this time you are thoroughly familiar with the products manufactured by our house and know their efficacy We are simply going to put one question to you Can you say conscientiously that during the past six months you have earned for the company that which the company is crediting you with in dividends? If not we can only say that we know of no better time for you to start than the present.

Certainly it is not fair on your part if you are not using the preparations to stand by silently and permit the company to credit your account with dividends earned by the efforts of other stockholders

We do know that some physicians who hold these certificates are not doing what they can to further the interests of the company, and we shall before long inaugurate a system and put it into operation which will enable us to ascertain to a very great extent

waste of time and money I am confident that under existing conditions such an epidemic runs its seasonal course and is little if at all abated by such measures except in the few cases where the infection has obtained access to a well and is being spread by the use of that water

With regard to the lesson that is learnt Major Ross says —

Medical relief was an urgent necessity but very few medical men were available and many refused employment For purpose of medical relief in future we require more doctors and the only way to get them is to open more medical schools

For purposes of prevention I desire to make it clear that prevention must precede epidemics and should prevent them it is not a means of stopping an epidemic. The meaning of prevention is that measures are taken in advance which prevent disease and the only possible way in which preventive measures can be effective is to create a preventive staff and organisation and keep it always ready and working

This epidemic has caught the public attention, in which respect it has served a more useful purpose than all the epidemics of many past years There has been a demand for preventive measures, for something to be done to stop such epidemics

I desire to point out that I have been pressing the same point myself unaided and alone, for more than 10 years Now when public interest has been awakened and there is a popular demand for preventive measures, there is an opportunity for the creation of an effective preventive system such as we are not likely to find soon again

The lesson has been impressed upon the public and brought home to the people Now every one is agreed that preventive measures are necessary, but when the epidemic becomes a memory of the past, the old apathy will reassert itself and it will no longer be possible to get the public to agree to any preventive measures which entail work, worry, and expense

With regard to the application of the lesson Major Ross observes —

In the practical application of the lesson, I would point out that there is no insuperable difficulty and that effective preventive measures are quite practicable but they cost money and they demand efficient organisation and proper equipment, and constant supervision, and they require a considerable staff of trained men for the various duties

Farther, I desire to point out that the mere provision of a skeleton sanitary staff with some disinfectants is not prevention it is playing at prevention

Organisation—complete in detail and comprehensive in scope—is the essence of prevention The staff and the equipment are without value if the organisation is lacking or fails in thoroughness

And one other thing is also needed there must be Public Health Legislation a standard of public health, a system of sanitation and a staff of health officers and inspectors and village officers to carry out the work.

Without that,—in the absence of any responsibility of the individual or of the community, in the absence of any "local authority" endowed with the duty of looking after the public health and empowered to carry out such duties, any provision of a centralised staff and equipment is a mere waste of time and money

Organisation, as I have pointed out above, is the essence of prevention if it is to be effective it must be based upon local knowledge of the villages, the conditions of life the roads the language, and last but not least the people Therefore good organisation demands decentralisation to the smallest possible units, under the supervision and guidance of the district boards and their health officers

EXTRACTS FROM THE REPORT OF THE GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS, FOR 1920

THE total number of cataract operations for the year was 1,525, a slightly smaller total than in 1919 Of 1,254 of these operated on by three members of the staff the percentage of vitreous loss was 3 3, or excluding expressions 2 9 Vitreous loss includes a smear in the section or a small bead which would not retract on establishing hook lid control

The combined figure for "partial failures" and "failures," according to the 1917 standard, was 132, 36 "partial failures" and 96 "failures" An analysis of these is given below, which shows how a considerable number of these cases might be brought into the "success" class by further hospital treatment.

There were two expulsive hæmorrhages, 25 cases of optic nerve or fundus disease, in which otherwise the operation would have been successful

Twenty cases of after cataract might have been removed from these groups by needling

In 31 cases of remote infection (*i e*, exudate appearing on or after the 5th day), about half the number tended to overlap the latter group in that they developed iritic membranes, and certain of these would have improved

Of the more hopeless cases there were 21 of prolapse or impaction of iris or vitreous or both, 5 of immediate infection (under 5 days), 12 of dense keratitis due to impactions in the section or persistent shallow chamber from other causes, and 16 of turned section The latter figure is unusual and hard to account for As far as can be made out it bore no relation whatever to the production of temporary paralysis in "squeezers" which is mentioned below It should be mentioned that increasing numbers of in-patients (and the average now is more than 100 in excess of the normal accommodation) has raised the apparent failure and partial failure rate, on account of the increasing speed at which patients are discharged For example a patient discharged ten days after operation in August with 2|60 corrected, had in December 6|6 with the same glass

The operation adopted in the large majority of cases was capsulotomy and extraction with irrigation, as described in the 1918-19 report Expression was chiefly reserved for cases in which it would probably have been necessary to remove the capsule with forceps such as old Morgagnian cataracts with spotted capsules There was a tendency all through the year to do the simple operation for Morgagnian cataract In these it is usually sufficient to make a small section and give a light stroke of the curette behind the upper edge of the wound in order to dislocate the small nucleus

Eight turned section cases were treated by covering the whole cornea with a flap from above, and keeping on a pressure bandage for two or three days

In six of these a uniformly curved scar was obtained, in continuity with the curve of the lower half of the cornea, but all the cases remained in the failure group Four turned sections were treated by stitching the lids, but this was not so satisfactory No evidence has been collected as to whether such eyes constitute a danger to their fellows

There does not seem to be much doubt that lens cortex or portions of the lens capsule in contact with the surface of the iris is sufficient to induce fibroblastic activity without infection necessarily being present, that is to say, infection capable of clinical detection It also seems clear that the barrier constituted by the suspensory ligament and capsule as left in the capsulotomy operation is a great factor in the prevention of fibroblastic activity extending to the vitreous The impression has been created by careful examination of post operative cases, and enucleated eyes, that contact between the vitreous and iris or between the vitreous and cornea (trauma of the vitreous mechanical or chemical) is sufficient to set up proliferative changes starting peripherally leading to vitreous opacities even though these be of a very fine degree and from a practical point of view insignificant at the time of observation Once formed they do not disappear any more than fibrous tissue fibrils in any other part On the contrary they tend to progress and determine other changes Forty-six operations were performed for

Symptoms Immediate symptoms, local and general. Mediate symptoms, local and general

Diagnosis Diagnose a fracture, describing methods of examination.

Treatment Principles in treatment

Society Proceedings

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and Second Annual Meeting, held at Albany, Jan. 27-30, 1908

(*Continued from page 477*)

The Consequences of the Pathologic Changes in Appendiceal Peritonitis

DR. E. M. STANTON, Schenectady, read this paper. His statements were based on a study of the condition of the peritoneum as observed at operation in 162 cases of acute and 331 interval and chronic cases of appendicitis operated on at St. Mary's Hospital, and on Dr. A. J. Ochsner's service at the Augustana Hospital, Chicago, together with 40 cases of appendicitis operated on at Ellis Hospital, Schenectady. As a control series he made use of previously reported studies of the operative findings in 485 cases operated on at the Albany Hospital during the six years previous to 1905, making in all 1,018 cases studied relative to the pathologic course of the intraperitoneal changes in this disease. Tracing the sequence of changes from a purely pathologic standpoint, they found three stages of the disease corresponding in clinical experience to periods showing wide differences in operative mortality. In conclusion he emphasized that fact that the distribution of an intraperitoneal infection is in most part dependent on purely *mechanical factors and that in the absence of peristalsis such* as is produced by giving food or cathartics by the mouth, the tendency of a localized peritonitis even of appendiceal origin to spread beyond its original boundaries was very slight indeed, while when a condition of peritoneal rest was once obtained, the vast majority of the cases of extensive and severe peritonitis showed a rapid localization of the inflammatory process which either subsided entirely or ends in the formation of a localized abscess.

DISCUSSION

DR. A. J. OCHSNER, Chicago, considered Dr. Stanton's paper so accurate and complete that it would stand as a basis for professional opinion on the pathology of acute appendicitis. Some eight years ago he said he had brought out the proposition that the distribution of the infection and consequent mortality in acute appendicitis depends not so much on the disease itself as on the disturbance caused by the peristalsis of the small intestines. Where the infection had spread beyond the appendix itself it is possible to limit the distribution and cause it to be localized, provided the action of the intestine could be inhibited. He advised keeping the stomach absolutely empty. If regurgitation occurred from the intestines the stomach should be washed out. He found the number of exacerbations somewhat dependent on the number of examinations. The claim to superiority of this form of treatment in cases of acute perforating or gangrenous appendicitis has been conclusively demonstrated.

DR. WILLIS G. MACDONALD, Albany, did not agree with the opinions of the two who had just spoken.

DR. JOHN C. MUNRO, Boston, commended the paper and said it was placed on a solid and scientific basis. He had used the treatment advised by Dr. Ochsner.

DR. SKINNER believed in the non-operative treatment of appendicitis.

DR. LAKE, Towanda, recalled his experience of thirty years ago, when appendicitis was unknown and yet the mortality low.

DR. L. DUNCAN BULKLEY said that fifty years ago he had had an attack of what was then known as typhlitis, but which he now knew was appendicitis, and under opium treatment for six weeks the infection was localized and at last the abscess ruptured into the bladder.

DR. VANDER VEER, Albany, said that Dr. Alonzo Clark had said practically the same thing as Dr. Ochsner on the very same spot forty-two years ago.

DR. STRANAHAN, Rome, had treated 120 cases, with no mortality, and had used Dr. Ochsner's treatment.

Tuberculosis in Children.

DR. CHARLES G. KERLEY, New York, said that the two features regarding tuberculosis in children which impressed him most strongly are the marked resistance which children show to tubercular infection, particularly after the fourth year, and the readily traceable source of the infection in many cases. His experience has shown that the intimate association of the child with a tuberculous adult is most frequently the source of infection. He related a number of instances in which the source of infection was difficult to find, but in which it was finally traced to association with a tuberculous adult. The recent experiments of Dr. Harlow Brooks with monkeys in the New York Zoological Garden were related as demonstrating that infection occurs much more certainly where dust containing the dry secretions of previous tuberculous animals had been allowed to collect and remain in the cages? Excepting those animals which had been directly exposed to the dried or fresh secretions of the infected animals, not one case of tuberculosis has developed. All new animals are now quarantined until they are shown to be free from tuberculosis and the result has been to reduce the mortality among the primates from over 50 per cent. to zero, so that as a mortality factor tuberculosis has ceased to exist in these zoological gardens. These experiments bear directly on tuberculosis in children because the type of disease seen in monkeys and even the organism present are apparently identical with the disease in children. It has been proven beyond a doubt that in these animals the mode of infection is through the respiratory tract. That this mode of infection is by far the most frequent is further shown by the location and character of the lesion as proven by autopsy records. In 34 out of 35 of his own autopsies, bronchial gland and lung involvement showed signs that they were the original site of infection, and according to Northrup the intestine is primarily involved in less than 2 per cent. of the cases.

While infection from milk is possible, Dr. Kerley is of the opinion that it is certainly very infrequent. In his experience where intestinal lesions had been found they were in marked *cases of generalized tuberculosis, and they were doubtless due* to the swallowing of sputum from advanced pulmonary processes. He said that in Greenland and in Japan, where cows' milk is not fed to infants, tuberculosis is much more prevalent than in countries where cows' milk is fed to children. He made no objection to boiling all market milk, but wished to get at the exact truth and lay it before physicians, legislators and educators. He is confident that milk adds but little to the mortality from tuberculosis. The disease among cattle should be stamped out, but more stress should be laid on the danger from the inhalation of infected dust instead of putting too much on infection through milk. He recommended education of the public as to the nature of the disease, and legislation to force the infected to observe reasonable sanitary laws. He would have all physicians report all cases.

Can Tuberculosis be Eliminated from Cattle?

PROF. VERANUS A. MOORE, Ithaca, N. Y., said that New York had been unfortunate until very recently in that there was no law to prevent the entrance of infected cattle into the state, and in having, at times, in official capacity those who belittled the significance of bovine tuberculosis, thereby discouraging farmers from adopting the most approved methods of protecting their cattle. The demand for fresh milk has led farmers to sell their dry and buy fresh cows, thus tending to spread the disease. Tuberculosis in cattle as in man is a very insidious disease, its period of incubation being uncertain and its course either long or short. Its positive diagnosis in most living animals is impossible without the use of the tuberculin test. *The methods for its elimination are based on the recog*nized principles of segregating the diseased individuals and

grey, the macula showing up smoky red The child was fat and well nourished, urine normal, the liver and spleen enlarged, the heart somewhat enlarged, very irregular, second sound accentuated There was nothing significant in the family history The child was put to bed and given antispasmodics On 23rd December, 1920, paracentesis was done R L with a needle L E with a Keratome. On 27th he could see with the L E. and on 28th with the R.E On 30th R.E V = 4|60, L E V = 3|60 on 20th January 1921, E E V = 5|15 on 28th January, 1921 the disc looked a trifle pale but was distinctly pink, the arteries had blood columns, most of them had thin white sheaths The surrounding fundus looked darker than normal

The fovea showed a small white reflex and its surroundings did not contrast sharply with the remainder of the fundus In the other 4 cases, all were young people, the onset and fundus appearances were similar but there was no evidence implicating heart, kidney or drugs In one case of a boy of 12 the sight failed during convalescence from enteric. He improved from P at 1½ inch to 5|15 without treatment

Several obscure cases of affection of the papillomacular bundle are recorded Two of these were labourers in dye works and handled the dye stuffs freely they are still under observation but up to the present no definite information as to the cause is forthcoming They were exactly similar to tobacco cases but there is no evidence implicating nicotine The number of cases attending the Refraction room is still in the increase 2,198 prescriptions for spectacles were given in the year The large number of cases of extensive corneal ulceration reporting late is a conspicuous feature of the out-patient department. These are treated for the most part by carbolic acid cauterization, paracentesis, Saemisch's section, together with saturated magnesium sulphate irrigation The latter procedure introduced by Colonel Kirkpatrick and described by him in the 1918-19 report is very valuable. It is also used in gonorrhœal ophthalmia in adults, and not a single eye has been lost from this complaint in the course of the year

Three thousand four hundred and seventy-five cases of catarrhal ophthalmia were treated, chiefly of the Koch Week's type.

Twenty-two cases of (Kirkpatrick's) Macular keratitis were treated, the results on the whole were very poor Evidently we are still very much in the dark as to the nature of this affection. Punctate keratitis of other types was not uncommon. Of such cases the only variety for which a cause could be found was that due to congenital or acquired syphilis

Granular ophthalmia was responsible for 452 cases attending the hospital No new facts have come to light as to its nature, or as to the different types of disease which are bulked together under the titles granular lids and trachoma. Rolling, application of solid copper sulphate, combined excision under local anæsthesia continue to be the favourite methods of treatment. Combined excision was done in 109 cases For Trichiasis, Story's (Mark's) operation was employed more often than any other, 39 cases being recorded Two cases of amyloid disease in young adults were observed, one of the left lower lid which made a perfect recovery on excision, one of the bulbar conjunctiva which was lost sight of

Herbert's nodule (or a condition indistinguishable from it) was observed in five boys In two cases the nodule was excised but the elastic tissue changes described by Herbert could not be determined histologically

Epithelioma of the limbus was responsible for the enucleation of three eyes, whilst two other cases refused treatment. Frontal sinusitis involving the orbit was met with five times One case of myiasis of the frontal sinuses and orbits in which the fly was grown from the maggots was published in the *Indian Medical Journal* for January 1921

Three cases of orbital and circumorbital naevi were successfully treated by applications of carbon dioxide snow Cultures from the anterior chamber on a variety of media were made in 8 cases of iridocyclitis of unknown origin with negative results It is hoped to continue this experimental work. Gonococcal vaccine was used in a number of cases of presumed gonorrhœal iritis but was very disappointing On the other hand B E in strumous keratitis and eczematous conjunctivitis starting with 1|500 000 mmg gave very encouraging results

One case of Moorens ulcer was arrested by the actual cautery, the application being made well into healthy cornea Two hundred and twenty-seven operations for removal of the lachrymal sac were performed The external operation under local anæsthesia is still adhered to It is quick, bloodless in the majority of cases, and gives good results The "Lachrymal Sac" case sheet will not be continued in 1921 nor will the circular post cards by means of which information was collected as to the ultimate results in these cases, as the case for the external operation is considered proven until something faster which gives better results as regards subsequent lacrimation is devised

Fifty-two keratomalacia cases are recorded

An experiment to test the value of administration of milk fat together with fresh fruit juice, meat juice, and yoke of egg in feeding keratomalacia cases was carried out during the year This was controlled by the treatment of other cases with cod-liver oil It was considered that if the keratomalacia was determined by deficiency in fat soluble A a mixture containing equal parts of the above substances administered in doses of from one ounce to four ounces according to the age of the patient (the youngest patients receiving at least one ounce) would result in a marked improvement. This was not found to be the case. The results of administration of cod-liver oil were found to be equal to those obtained by feeding with the mixture. It is proposed in the year 1921 to collect details of all cases of keratomalacia reporting at the Out-Patient Department. In addition to the usual treatment for the care of the eyes and intestinal tract, patients suffering from this complaint will receive not only cod-liver oil, extra milk and triple chloride mixture (as heretofore) but also a small daily ration of fried liver Observations on Keratomalacia as noted in this clinic will be published elsewhere.

A much larger amount of Novarsenobillon was utilised than in former years and it is hoped that still greater allowance of this drug will be available next year A very large proportion of our cases receive antisyphilitic treatment in some form, sub-cutaneous injections of cyanide of mercury and oil of iodine being relied on for the most part.

The total number of Wasserman tests made for this hospital by the King Institute, Guindy, was 424 with 149 positive results

Saturated aqueous solution of picric acid in keratitis, conjunctivitis and eczematous conditions has had much more extended use than formerly

Fourteen deaths occurred during 1920 Three were amongst children suffering from marasmus and keratomalacia. Two died of Bright's disease two of meningitis (one being the myiasis case above referred to, the other an erysipelatous condition of very rapid course, starting on the face) Seven deaths were amongst old patients from general debility and heart failure.

The Elliot school which was opened in the beginning of the year as recorded in the last report, has been developed in several directions One hundred and twenty pathological (eye-ball) specimens have been mounted, described and card, indexed. In a short time, when suitable show cases arrive from England it is hoped to have all the pathological material housed in one of the rooms of the school, in a way which will afford every facility for study Twenty-four new water colour paintings have been added to the valuable collection made by Col Kirkpatrick. A columnar stereoscope to carry 200 photographs has been acquired The services of a professional photographer have kindly been lent on two days a week by Major Hingston Superintendent of the Maternity Hospital Pending

affliction with delusions and hallucinations, is not irresponsible under the law for the acts done by him while in such mental condition

The accused on the trial for an indictment for murder is not entitled to an instruction propounding the inquiry as to whether he was insane at the time of the killing, if the evidence adduced by him to sustain such defense lacks tendency to show mental unsoundness antedating the drunken spree, in the course of which the killing was done, and also to show that intoxication had ceased, and settled insanity ensued, as a result of habitual indulgence in intoxication

City Upheld in Requiring Traveling Physicians to Pay Fifty Dollars a Year License Tax.

The Supreme Court of Iowa upholds, in the case of the City of Fairfield vs. Shallenberger, a city ordinance requiring traveling physicians engaging for pay or reward in that occupation or profession in the city to pay a license of $50 per year. Section 700 of the Iowa Code provides that cities and towns shall have power "to regulate, license and tax itinerant doctors, itinerant physicians and surgeons," while Section 2581 thereof provides that the state board of medical examiners may issue to itinerant physicians a license to practice within the state. But the court does not think that Section 2581 repeals or limits the power of Section 700 by implication or by any express language used therein.

The power to license conferred on cities and towns by Section 700, the court says, is in reality a grant of power to enact police regulations for the general welfare of the particular community. And it is on this principle that physicians, other professional men, and skilled workmen generally may be required to procure a license which certifies to their fitness to pursue their respective callings in which professional skill is most necessary, and in which the ignorance of the practitioner is likely to be productive of harm to the public and to individuals having business relations with them. What the state may do in its sovereign capacity it may authorize its creatures to do, and the court thinks there can be no doubt of its power to delegate to municipal corporations the enactment of such local police regulations as shall be deemed reasonably necessary for the protection of the public in the particular localities. That the legislature may, in the exercise of its police power, regulate a state license for the practice of medicine, and at the same time authorize municipalities to require a license for the practice thereof within their boundaries, the court does not doubt. It would, in effect, be nothing more than the imposition of an increased charge for the privilege, and the court was cited to no authority which holds this to be beyond the power of the state. If the state may thus act it follows that no inconsistency necessarily exists between the two acts under consideration. In one the power is given municipalities to license within their confines and in the other a license for the whole state is issued, but by implication it is not effective where a local license is required until such license has been obtained. That a license may be required from the same person for the same business by the state and by its municipalities is a rule of general application.

The court does not consider that the ordinance violates Section 1 of the fourteenth amendment to the Constitution of the United States, which provides that "no state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States, nor deny to any person the equal protection of the laws."

Nor does the court think the ordinance open to the charge that it discriminates against a non-resident of the city or of the state. It requires a license only from traveling physicians, it is true, but it nowhere confines its operation to traveling physicians who are non-residents of the city of Fairfield. If a resident of said city was a traveling physician and sought to practice his profession therein, he would be as surely subject to the ordinance as was the defendant. The ordinance is of uniform operation because it embraces all of the class designated therein.

Neither was the license required unreasonable. Fifty dollars per year for the privilege of practicing medicine is not in and of itself unreasonable or exorbitant.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

Medical Record, New York.

February 1

1 Classification of Cases of Appendicitis. J. J. McGrath, New York.
2 Psychologic Study of Hamlet. J. W. Wainwright, New York.
3 *Cutaneous Tuberculin Vaccination in the Diagnosis of Tuberculosis. W. J. Butler, Chicago.
4 After Care of Tuberculosis with Reference to Employment. H. R. M. Landis, Philadelphia.
5 Treatment of Cancer. A. G. Henry, Cortland, N. Y.
6 Teaching of Physical Diagnosis. O. L. Mulot, Brooklyn, N. Y.
7 Congenital Irideremia with Cataract. D. S. Thomson, New York.

3 Tuberculin Vaccination—Butler describes the technic of tuberculin cutaneous vaccination and the reaction, and concludes that in a child positive reaction is undoubtedly diagnostic of tuberculosis. Failure of reaction is of little antidiagnostic significance in the terminal days of tuberculous infection. A negative result may occur in obsolete tuberculous foci. It fails in cachectic children. He considers it a valuable diagnostic aid in children, though adults may present the reaction even when healthy.

Boston Medical and Surgical Journal.

January 30

8 *An Insidious Type of Non-tuberculous Pyelonephritis. A. L. Chute, Boston.
9 *Adenoids and Tonsils. H. G. Langworthy, Dubuque, Iowa.
10 *Division of the Posterior Spinal Roots for Amputation Neuralgia. P. C. Knapp, Boston.
11 Reform of Expert Medical Testimony. L. C. Southard.
12 Spina Bifida. B. B. Cates, Knoxville, Tenn.

8 Non-Tuberculous Pyelonephritis—Chute describes two unusual cases which leads him to conclude that there are certain forms of pyelonephritis that simulate bladder infection very closely in that those signs most relied on in the diagnosis of kidney infection are absent in the early stage, and occur only late in the disease at a time when we are powerless to stay its course. Cystoscopy is the only means by which these forms of pyelonephritis can be recognized while treatment is still of avail. In cases he says, that are apparently chronic cystitis but persist without evident cause, the physician should consider that the burden of proving that the condition is not renal rests on him. Early drainage is probably the most efficient method of treatment.

9 Adenoids and the Status Lymphaticus—Langworthy discusses adenoids and tonsils, and in relation to the question of operation takes up the subject of the status lymphaticus. He holds that a positive diagnosis during life is, to say the best, extremely difficult, if not impossible, and that there seems no reason to suppose that cases of simple adenoid and tonsillar trouble are especially suggestive of the status lymphaticus. It is only when they are associated with other stigmata, e. g., absence of pubic hair in an adult, frequent attacks of syncope, dyspnea and laryngismus stridulus, that the possibility of the lymphatic constitution should be considered. He discusses the methods of removing the tonsils which should be complete and should include the capsule.

10 Amputation Neuralgia—Knapp considers the development of severe neuralgia of the stump after amputation and the suggested treatment of division of the posterior spinal roots. He reports two cases, in one of which death ensued on the table, and in the other the operation not only failed to give permanent relief to the patient, but was undoubtedly the cause of some change in the cord resulting in paraplegia.

New York Medical Journal.

February 1

13 *Carcinomatosis of the Meninges. D. J. McCarthy and M. K. Meyers, Philadelphia.
14 *Anesthesia by Nitrous Oxid, Nitrous Oxid and Oxygen, Nitrous Oxid and Ether, Chloroform and Oxygen and Ether Administered by Rectum. P. LeBreton, Buffalo, N. Y.
15 Spontaneous Rupture of the Heart. T. Klingmann, Ann Arbor, Mich.
16 *Noma. R. C. Rosenberger, Philadelphia.
17 Notes on European Surgical Clinics. O. C. Smith, Hartford, Conn.
18 *Milk and Education. G. W. Goler, Rochester, N. Y.
19 *Tuberculosis Among Medical Students and Its Possible Prevention. I. J. Wile, New York.

THE RECENT EPIDEMIC IN LUCKNOW SO-CALLED CHOLERA

To the Editor of THE INDIAN MEDICAL GAZETTE.

SIR—During the recent epidemic in Lucknow, most of the cases which came for treatment were very peculiar in their nature, the attack began in most cases in the shape of slight purging and nausea which ultimately developed into severe purging and slight vomiting and collapse and death at the end of 24 hours Children were mostly affected and the mortality seemed to be great amongst them The patient passed urine all right and collapse was the ultimate cause of death Cases are amenable to treatment if taken in hand at an early stage Food is restricted at once to simple barley water or nothing at all until the motions are checked a little. A simple mixture of spirit camphor, spirit chloroform, spirit ammonia aromatic, mucilage tragacanth, and aqua menth pip along with pot permang pills keratin-coated seemed to be very effective Doses of methylene blue also seemed to benefit some cases And in cases of collapse nothing short of two pints saline solution given intravenously seemed to be of any use But on the other hand in the case of children I noticed some of my young medical friends giving saline intravenously to the extent of two pints at a time to a little child aged four years and the result was disastrous The child, who was quite all right before the injection so far as his brain was concerned, immediately afterwards got severe convulsive fits and died during the night I do not know how far my conjecture is correct, but I am inclined to think that saline in adult doses given to children is liable to increase the blood pressure excessively and thus mechanically bring about convulsions so severe that it may be difficult for them to struggle successfully out of it. It is only going from the frying-pan into the fire In my humble opinion a modified dose of six or seven ounces would probably be the proper dose, and, if not beneficial would not produce the same disastrous results I may be wrong and I shall be thankful if some one, who is an authority on the treatment of children's diseases, enlightens me on the subject. It is an important matter and young medical practitioners should understand their responsibility and be very careful in handling methods of treatment with the evil effects of which they have not made themselves thoroughly acquainted As regards the pathology of the disease, as far as I have been able to ascertain, the germ of the disease has not been totally identified yet It has only been found to differ in appearance from the comma bacillus of cholera

Yours, etc.,
C C. BOSE
BA LRCP LRCS (*Edin*)
LRFP & S (*Glas*), LM (*Dub*)

LUCKNOW

To The Editor of THE INDIAN MEDICAL GAZETTE

SIR—I note with surprise in your resume of the Sanitary Commissioner of India's report for 1919 the following paragraph —"Kala-azar is astonishingly rare in the Indian Army only four cases were diagnosed during the year 1919 and two in 1918 It is almost incredible that there should be so few cases of this disease *in spite of the fact that recruitment into the army is chiefly in places where the disease does occur*" The italics are my own I think I am right in saying that at least three-quarter of our Indian Army is recruited from the Punjab and Frontier districts That being so why is this incredible? I have spent 19 years in military and civil employment in the Punjab and the Frontier and have never seen a case of kala-azar I do not say that cases do not exist, they may, but at all events, the disease must be exceedingly rare in this part of India That being so one would not expect to find any great incidence in the Indian Army

Further on in the same report the Sanitary Commissioner makes the same remarks about ankylostomiasis This disease is certainly not very common in the Indian Army whatever it may be amongst the population of Southern India

Yours, etc,
(Sd) H C KEATES,
M.D B S (*Lond*),
Major, I M S

LONDON,
The 6th Nov, 1921

[MAJOR KEATES has pointed out an inaccuracy for which the Editor and not the Sanitary Commissioner is to blame. The word 'chiefly" in some mysterious way became substituted for "active" and the mistake was overlooked in the proofs The statement expressed the views of the Editor and should not be attributed to the Sanitary Commissioner, and while apologising for the obvious inaccuracy which Major Keates has kindly pointed out I still retain the feeling of surprise that there should be so few cases of kala-azar in the Indian Army In a very limited personal experience of sepoys returning from Mesopotamia two cases of kala-azar were met with and neither of these had been diagnosed previously to their admission to the King George's Hospital in Lucknow, in spite of the fact that they had passed through the hands of several medical officers

It is very likely that kala-azar may pass unrecognised because no suspicion is aroused as to its occurrence

The remark with regard to hook-worm disease is also of editorial origin, and it is likely that all who have experience of this disease in India will share my surprise at the reported incidence of hook-worm infection in the Indian Army In any case there is no harm in suggesting that a close watch should be kept for these diseases which are rarely reported among sepoys though they are known to be common in some of the localities from which recruitment has taken place, especially during the war]

Service Notes.

SUBJECT to His Majesty's approval, the undermentioned officers have been permitted by the Right Hon'ble the Secretary of State for India to retire from the service with effect from the dates specified —

Colonel Allan James Macnab, CB, CMG, FRCS Dated 15th August 1921

Brevet Colonel (temporary Colonel) William Westtrop White, CB CMG MD (supernumerary), and Major Walter Scott Patton, MB Dated 2nd August 1921

THE undermentioned officers are permitted, subject to His Majesty's approval, to resign their temporary commissions, with effect from the dates specified —

Captain Ramchandra Subbarama Iyer Dated 27th May 1921

Captain Ben Philip Athaide Dated 20th August 1921

Captain Vatackal Thomas Ninan Dated 21st August 1921

Captain Ratish Chandra Banerji Dated 25th August 1921

Captain Annada Prasad Sinha Dated 27th August 1921

Captain Divi Das Kapur Dated 5th September 1921

Captain Phanindra Krishna Gupta Dated 9th September 1921

THE undermentioned officers are permitted, subject to His Majesty's approval, to resign their temporary commissions, with effect from the dates specified against their names and are granted the rank of Captain —

Captain Henry Saumarez Hensman Dated 11th July 1921

be feared. Arthritis and rheumatism are the most constant concomitants of gonorrheal invasion and induce marked changes in the joints, the tendons, the bursæ and the muscles. Generalized systemic infection is most commonly observed when by extension (usually from the joints) the heart in part or in whole is attacked, then severe and perhaps mortal illness may be produced. In general, the reaction is in proportion to the extent of cardiac territory attacked, and such cases may assume a malignant form. Such is the antitoxic power inherent in the blood serum that in many cases, even when vital parts are attacked, the gonococcus is destroyed. By reason of its toxins or, perhaps the microbe itself, more or less structural change is produced in the cerebrospinal system, which may be local or more or less generalized. Gonococcic invasion of the pleura is not uncommon and various forms of phlebitis may thus result. While it has been shown that the spleen may be attacked, there has been no evidence of liver involvement described. A large range of cutaneous and mucous membrane lesions have their origin in the gonococcus. These are ulcers, abscesses and follicular lesions, erythematous and keratosic exanthems. Bone lesions of mild and severe forms are more or less remotely dependent on the virulent potentialities of the gonococcus. The whole genitourinary tract in the male may be involved by the gonococcus, the prostate, seminal vesicles, bladder, ureters and kidney may be attacked. Certain extragenital parts, such as the mouth, rectum, nares, umbilicus and eyes, are frequently the seat of gonococcic inflammation. Infection of the female genitourinary tract is very common. When the lower pudendal portions are involved there is less danger, but extension of the process to the uterus and parts above constitute menaces to health and life. The question as to whether an inhibitory serum may be produced to kill or regulate the virulent microbe is yet unsettled. In the vast majority of all cases of gonorrhea the gonococcus is at first the absolute causal agent. The few cases in which a condition resembling gonococcic urethritis is produced by other microbes constitute but a drop in the bucket. While the gonococcus may become latent and may hibernate in tissues, crypts and follicles, it may at any time become potential. It also may lead to mixed infection and prepare the soil for other microbes which may run a severe course. The gonococcus thus shows itself capable of producing the most far reaching infections to which the human race is liable.

21 Abstracted in THE JOURNAL, Nov 9, 1907, page 1624.

22 **Extrauterine Pregnancy**.—Ladinski discusses the etiology, histology, course and termination, symptomatology and diagnosis, including (a) diagnostic signs of unruptured tube, (b) of ruptured tube, (c) differential diagnosis and treatment. In regard to the latter Ladinski can not agree with, nor does his experience confirm, the theoretical reasoning of those who advocate delaying operation in ruptured tubal pregnancy on account of the presence of profound shock. He has repeatedly operated effectually when there was no pulse at the wrist, and at times the operation has been done when the patient was absolutely unconscious and did not require anesthesia, either general or local. He reports a case in point and discusses the subject. The abdominal route he considers the route *par excellence* for tubal pregnancy. Venous infusion he regards as the most important life saving measure next to rapid and skilful operation. In conclusion he says that tubal pregnancy has the same bearing on gynecology that appendicitis has on general surgery, and when we compare the frequency of each in women of the parturient age we shall find tubal pregnancy responsible for possibly as great a mortality and morbidity as appendicitis, and it is certainly entitled to the same consideration on the part of the general practitioner.

23 **The Puerperium**.—Flint advises the immediate repair of perineal lacerations, placing the sutures deeply and tying them loosely. The contraindication to immediate repair is the exhausted condition of the patient. Flint repairs laceration of the cervix only when extensive enough to cause hemorrhage. One or two plain catgut sutures placed high in the angle of a torn cervix is the next best method of arresting hemorrhage. He still uses the binder for comfort's sake. Vaginal douches should not be given, but the vulva should be irrigated after each evacuation of the bladder when dressings are changed. Hemorrhage occurring early is most commonly due to retention. Curettage with a large blunt curette (never a sharp one) should be practiced, *if necessary, after digital examination*. An intrauterine douche of hot sterile salt solution should be given and the patient put to bed. Later hemorrhages are commonly due to imperfect involution. The possibility of chorioepithelioma must be remembered and scrapings should be examined microscopically, immediate hysterectomy should be done if it is found. Flint recommends careful physical examination *at the end of the fourth and sixth week* for subinvolution and displacements. Tampons of boroglycerin or tannic acid and glycerin between the periods give astonishing results. In addition, strychnin and ergotin may be administered internally and hot douches may be given.

24 **Id**.—Dorman urges the importance of the nurse and patient being mutually congenial as well as that the nurse should be efficient. No nurse should be engaged till this point is settled, and several should be tried if necessary. Catharsis is necessary for almost every patient. He recommends fluid extract of cascara in dram doses. He discusses various ailments, and in regard to drying up the breasts he recommends that they be bandaged when empty, with a bandage giving firm, even pressure, the nipples disinfected and covered with sterile cotton, a dry diet, and a daily morning saline cathartic. The bandage must keep up firm, continuous pressure, and on no account must it be removed and the parts massaged. For pain he advises icebags locally and a little codein.

25 **Id**.—Marx's custom for many years has been to allow the mother a most liberal diet, even immediately after labor, in the absence of any contraindication. He has seen no evil results. Sepsis comes from filth, not feeding. He administers small doses of ergot during the puerperium. After pains call for careful Credé treatment daily, and posture to aid drainage, ten grains (0.65 gm.) of chloral every hour until relief, or codein one to two grains (0.065-0.13 gm.) by mouth or rectum. Gelsemium and bromids are occasionally of value. Douches he considers unnecessary except for esthetic reasons at the end of the first week. The rubbing of the nipples to prepare them for lactation he considers a most prolific cause of complications.

Lancet-Clinic, Cincinnati.

January 25

26 *Reasons for Some Unsatisfactory Results and the Remedy in the Treatment of Anorectal Diseases. B. Asman, Louisville, Ky.
27 *Local Anesthesia Versus General in Rectal Surgery. G. B. Evans, Dayton, Ohio.
28 Rheumatism. T. C. Crawford, Dunkinsville, Ohio.
29 Treatment of the Stump in Appendectomies. F. C. Merriweather, Asheville, N. C.

26 Published in the *American Practitioner and News*, October, 1907, and abstracted in THE JOURNAL, Nov. 9, 1907, page 1630.

27 Abstracted in THE JOURNAL, Oct. 26, 1907, page 1460.

Medical Fortnightly, St. Louis.

January 25

30 *Hyperemesis Gravidarum and Its Treatment. W. H. Vogt, St. Louis.
31 The Distal Mesenteric Artery. B. Robinson, Chicago.
32 *Case of Multiple Bowel Perforations Due to Gunshot. J. W. Shankland, St. Louis.
33 Case of Multiple Stab Wound of the Chest and Abdomen, with Prolapse of Viscera. W. C. G. Kirchner, St. Louis.
34 *Opsonic Index and Active Immunization. E. H. Shorer, Columbia, Mo.

30 **Hyperemesis Gravidarum**.—Vogt describes the various causes predisposing to this condition, namely, congenital malpositions and shapes of the stomach, usually associated with external evidence in the breasts, pelvis, etc., acquired malpositions in shapes of the stomach brought about by tight lacing, organic stomach diseases, chlorosis and anemia, nervous diseases, poor living and improper nourishment, and changes in the sexual organs. He considers, for reasons adduced, that hyperemesis gravidarum is really caused by syncytial intoxication of at present undetermined origin. It seems to induce a

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defendant, but by the court for the whole case They should not testify for or against any side, or for or against any the ory of a case, but should apply their expert knowledge to the proved facts of the case and to nothing else The hypothetical question should be simplified or even entirely abolished and a limit put on the number of experts who may testify in a given case Another duty of the medical profession is to drive from its ranks the criminal abortionist Finally, he would advocate a greater extension of the preventive principle in medical practice, the physician being retained to inspect his patient, regularly, say once a week, and to deal with him according to the examination The regulation of marriage, the elevation of stirpiculture to the status of a practical science, and the improvement of sanitary conditions, etc., are parts of the duty of the medical profession to the public

56 Mental Development.—Mills emphasizes the importance of an appreciation of the difference between the child and the adult, which would result in the radical modification of kin dergarten methods with its mat weaving and sewing, which bring into action refraction and accommodation powers and accessory muscles at a time when the central muscular masses and the grosser movements are instinctive and much more im portant He urges that "reasons why" should form a small part of early instruction in home and school and memory studies greater emphasis, that technical studies should be postponed until higher grades, and that children particularly should not be allowed to associate with any one that it will do them harm to imitate.

Journal of Ophthalmology and Oto-Laryngology, Chicago

December

59 Empyema of Sphenoidal Sinus A H Andrews Chicago
60 Radiography and Transillumination in Diagnosis of Sinus Disease J C Beck Chicago
61 The Eye Ear Nose and Throat Clinics of Vienna Berlin and London A. K. Higgs Heppner Ore
62 *An Easy Method of Fully Everting the Lower Lid in Certain Cases also an Easy Method of Everting the Eyelids of In fants. D T Vail Cincinnati

January

63 Retinal Glioma with Report of a Binocular Case Cured C Lukens, Toledo Ohio
64 Case of Congenital Coloboma of the Eyelid. W O Nance, Chicago
65 *The Nose in Its Relation to Epilepsy W S Bryant, New York
66 Malignant Growths of the Nasopharynx. K. W Baldwin Phila delphia

62 To Evert the Eyelids.—When it is found difficult to evert the lower lid, Vail recommends that the patient look downward and the upper lid be everted in the usual way If he is then directed to look upward and at the same time the usual effort to evert the lower lid is made it will succeed. To evert the eyelids of a child Vail recommends the following method The surgeon sits with the child's head lightly clamped between his knees, the child's body in the lap of the nurse sitting close by in a chair, and the child's hands held by the nurse The feet are allowed to kick free The entire finger nail of the left index finger is placed on the lower lid and the finger crooked so that the pulp of the finger tip will just override the edge of the lower lid, then the upper lid is gently pushed downward by means of the index finger of the right hand placed at the upper tarsal rim until the free border of the upper lid over rides the pulp of the finger tip of the left index Maintaining the pressure with the right index finger when this position is effected the upper lid is turned inside out by simply keeping the free edge of the upper lid against the pulp of the index finger of the left hand. The right hand is now free to use in everting the lower lid Having everted the upper lid, the lower is easily everted by making pressure downward with the right thumb

65 This article was published in the *Medical Record*, Nov 23 1907, and was abstracted in THE JOURNAL, Dec. 7, 1907, page 1953

Montreal Medical Journal.

January

67 *The Scientific Spirit in Medicine A. B Macallum Toronto
68 Obstetric Nursing David J Evans Montreal
69 Narrowing of the Uterus Successfully Treated by Operation. I Olmstead Hamilton Ont.
70 Case of Cutaneous Horn J M Fider Montreal
71 Effect of Anesthesia on the Opsonic Index A C. Rankin Montreal

67 Scientific Spirit.—Macallum deprecates the loose use of the term science *Scientia* means knowledge in the ordinary and simple sense, to day, in popular language science is an oracular personality This is wrong, for it makes a cult of a word and the word becomes a fetish Science is simply organ ized knowledge, not of isolated facts, but of facts put in such relation to one another that all of them and the phenomena involved are explained The scientific spirit is engaged in co ordinating and organizing the knowledge of facts It ap proaches every problem in the questioning mood, not greatly concerned whether the solution is or is not of practical utility After marshaling facts it proposes an explanation to compre hend the why and how of them all, which remains as a work ing hypothesis until further facts overthrow it The dispar agement of the theorist of this kind is irrational It is the extravagant theorist, whose speculations have no regard for ascertained facts or are based on no facts at all, who should rightly meet with deprecation, but as great an obstacle to knowledge is the so called practical man, for he accepts, con sciously or unconsciously, the popular explanations or theories, which in the majority of cases are either inadequate or wholly wrong

Illinois Medical Journal, Springfield.

January

72 *Modern Treatment of Tuberculosis Climatic Fallacy J W Pettit Peoria
73 *General Considerations Concerning Opsonins and Therapeutic Inoculations of Dead Bacteria L Hektoen Chicago
74 *Virulent Pneumococci Opsonin and Phagocytosis D C Rose now Chicago
75 *Bacterial Vaccine Therapy in Tuberculosis M C Lincoln Chicago
76 *Vaccine Therapy in Staphylococcus Infections. G Frith Hagans Chicago
77 *Bacterial Vaccine Therapy in Gonorrhea R Vail Chicago
78 *Clinical Results and Conclusions J C Hollister Chicago
79 New Modification of the Primary Position in the Bloodless Treatment of Congenital Hip joint Dislocation F Mueller Chicago
80 Medical Treatment of Nephrolithiasis Urica. A C. Croftan Chicago
81 Exophthalmic Goiter O M Steffenson Chicago

72 Tuberculosis The Climatic Fallacy.—Pettit reviews the opinions of authorities on the subject of climate in the treat ment of tuberculosis and points out that everything tends to prove that climate is not an essential thereto He does not deny that it may possess some value as an adjuvant, but he asserts that even in climatic resorts, sanatorium treatment is essential, and exactly the same conditions are imposed there as elsewhere Moreover, a departure from the climate is usually followed by relapse, patients rarely remain long enough to effect a cure, the expense has impoverished innumerable fam ilies and many examples show that equally good results can be obtained if the same principles are applied, in almost any climate where pure fresh air can be obtained, no matter what the altitude, dryness, humidity, etc

73 The ground of this paper was covered in Dr Hektoen's remarks at the meeting of the Idaho State Medical Associa tion, an abstract of which appeared in THE JOURNAL, Nov 30, 1907, page 1870

74 to 78 Abstracted in THE JOURNAL, Nov 23, 1907, pages 1799 and 1800

Maryland Medical Journal, Baltimore

January

82 Relations of Physicians and Pharmacists and the Use of the Pharmacopeia and National Formulary L F Barker Balti more
83 *Tumors of Lateral Aberrant Thyroid Tissue A McGlannan Baltimore.

83 Tumors of Aberrant Thyroid Tissue.—McGlannan points out that only paired ductless glands of the body are organs most prominent in the production of aberrant collections of specialized tissue While tumors of aberrant thyroid tissue are not so common as hypernephroma, they are still common enough to attract attention They are found in all regions developed from the embryonic areas adjacent to the branchial tract They are median or lateral, superior or inferior, accord ing to their relation to the hyoid Their common position is

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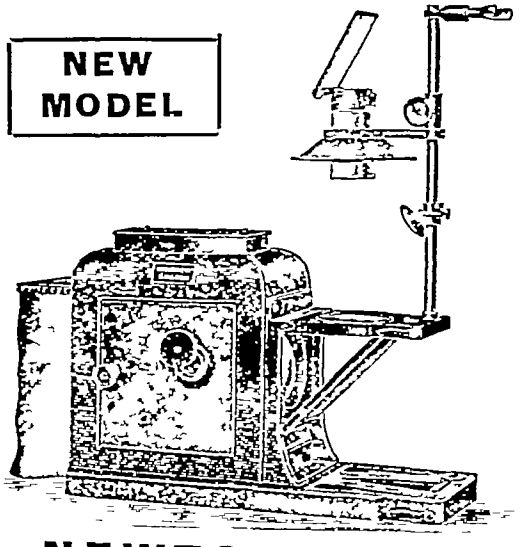
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Manufacturing Opticians

BOMBAY, CALCUTTA, MADRAS, DELHI, LUCKNOW, SIMLA, KARACHI, RANGOON, ETC.

The red blood counts are greatly increased As many as 13,600,000 per c.mm have been counted The enlargement of the spleen is a variable factor It may precede the occurrence of cyanosis or not be discovered until after death Theoretically polyglobulism may be due to a diminished destruction of the red blood corpuscles, to an excessive loss of plasma, and to an increased production of red cells Osler does not agree with Weintraud, that the polyglobulism in this disease is due to retarded destruction while the absence of pigment deposit appears to negative the idea of increased hemolysis In the six known postmortem examinations of this disease were found, on the contrary, the indications of increased production, a plethora vera, intense hyperplasia of the bone marrow a myelomatosis rubra, an enlargement of the spleen with histologic changes indicative of chronic passive congestion and a uniform hyperplasia of all the elements Even this, however, does not tell us the cause of the mysterious flooding of the body markets with the products of its red blood factories In this disease there is a condition in which so far as we know, there is an oversupply without any corresponding demand, and the same riddle confronts us as in leukemia Regarding treatment, we have nothing wherewith to control morbid processes in the bone marrow Repeated bleedings have relieved vertigo, oxygen inhalations have relieved cyanosis and diminished the number of red blood corpuscles In some cases the *x* rays have diminished an enlarged spleen Osler states in a footnote, that a month of oxygen inhalations and *x* ray treatment resulted in one case in a gain of several pounds in weight and an increase of strength, but there was no change in the cyanosis or the polycythemia, though the spleen was somewhat reduced in size

3 **Catgut**—Lister enumerates the requirements of satisfactory catgut for surgical use namely, *adequate strength against* strain, the power to hold tight when tied in a reef knot, an absence of such rigidity as would cause it to work its way out by mechanical irritation, a sufficient life before absorption, and thorough aseptiecity Chromium sulphate is the ideal substance in regard to these effects with the exception of asepsis, but this can be supplied by the addition of a little corrosive sublimate *Commercial chromium sulphate varies greatly in* quality, hence the method devised by Lister and used since 1894 but never before published, which is as follows The preparing liquid must be twenty times the weight of the catgut. So for forty grains (2 60 gm) of catgut 800 grains (52 gm) of preparing liquid are required It is made by mixing two liquids—namely the chromium sulphate liquid and the sublimate liquid The *sublimate liquid* is

Corrosive sublimate	1|3	gr ii
Distilled water	20|70	gr ccccx

The sublimate may be dissolved by heat, but the solution must be used cold The chromium sulphate liquid is prepared thus

Chromic acid	1|20	gr iv
Distilled water	15|50	gr ccxl

Add to this as much sulphurous acid (B P solution) as gives a green color If more is added the color becomes blue, which shows that rather too much sulphurous acid has been used It is well to reserve a few drops of the chromic acid solution to be added after the blue color has just appeared and restore it to green Then enough distilled water is added to bring the green liquid up to 480 grains (31 10 gm) The sublimate liquid is then added The catgut is kept twenty four hours in the preparing liquid and is then dried on the stretch Lister details experiments to prove the keeping qualities of this catgut Two hundred and seven grains (13 40 gm) of catgut thus prepared three years previously were chopped into short segments and covered in a mortar with 2 000 grains (129 60 gm) of distilled water enough to cover them The gut was macerated in a stoppered bottle for seventeen hours and the infusion tested by the late Dr Macfadyen with *Bacillus anthracis Staphylococcus pyogenes aureus* and *Streptococcus pyogenes* when it was found that the *liquid inhibited growth in pro* portion to its degree of concentration and the length of time of exposure of the germs thereto Lister cautions however against the danger of forgetting that the dry surface is liable to contamination His practice has been to put the catgut in 1/20 *solution of carbolic acid* about a quarter of an hour before the operation is begun

4 **Excision of the Cecum and Ascending Colon**—Dobson and Jamieson report a case of carcinoma of the *ascending colon and* one of tuberculous disease of the cecum, in which was carried out an operation suggested by them in a paper on the lymphatic system of the ascending colon, cecum and appendix (*Lancet*, April 27, 1907, page 1137) as being possible The operation included the removal, in one piece, of the cecum, ascending colon, and the terminal portion of the ileum, together with the *whole ileocolic chain of lymphatic glands*, including the gland lying on the duodenum at the origin of the ileocolic artery In both cases the patients made excellent recoveries and have since done well Practically, the operation presents no special difficulties

5 **Anesthetics**—Buxton discusses the legal responsibilities of the anesthetist in relation to (1) the patient, (2) the operator (3) the selection of the anesthetic He considers the relation of the anesthetist to the dentist, to the unlicensed medical practitioner, and in regard to illegal operations

British Medical Journal, London

January 18

11 *Preparation of Catgut for Surgical Purposes Lord Lister
12 *Results of the Operative Treatment of Chronic Constipation W A Lane
13 Passage of Food Through the Human Alimentary Canal A. F Hertz
14 *Special Form of Dilatation and Displacement of the Stomach T S Short.
15 Physiologic Aspects of Gastroenterostomy H C Cameron
16 Ether Anesthesia by Open Method H B Gardner
17 *Conveyance of Whooping Cough from Man to Animals by Direct Experiment H A Macewen
18 Hypersensitiveness to Antidiphtheritic Serum R. T Thorne.
19 Case of Vagitus Uterinus S McNaughton

11 See abstract No 3

12 **Chronic Constipation**—In the earliest cases in which Lane removed the greater part of the large bowel the symptom demanding it was pain usually in the cecum splenic flexure or sigmoid Noticing the startling change abruptly following operation from the cessation of the associated symptoms of autointoxication he was induced to operate also in cases in which pain was not necessarily a marked feature, but in which life was becoming a burden through the misery and distress induced by the autointoxication and its results At first he removed the large bowel only so far as the splenic flexure, but subsequently he excised the residual bowel in many such cases of incomplete resection, and in all primary operations he removed the entire large bowel with the exception of the rectum Constant and abundant subcutaneous saline injection obviated the severe vomiting which occurred in the earlier cases He reports a series of thirty eight cases with six deaths arising from various causes In the remaining cases the patients not only did well, bnt recovered wonderfully good health

14 **Dilatation of the Stomach.**—Short describes a form of dilatation of the stomach not due to pyloric obstruction or to the atonic gastrectasis of old people The condition is associated especially with periodic attacks of severe pain—of a very acute type—relieved if the patient can vomit, but usually accompanied by inability to vomit In the intervals between the painful attacks discomfort especially flatulence occurs the latter making its presence known not only by distension, but also by audible rumblings There is also a want of proper assimilation of the food taken, as shown by loss of flesh, debility and great depression of spirits, verging at times on melancholia In investigating a large number of such cases Short *has found that the condition present is dilatation with down* ward displacement of the stomach In this paper he deals with the causes, diagnosis and treatment of this particular form of dyspepsia

17 **Whooping Cough.**—Macewen describes an experiment with a cat from which he draws the following conclusions Whooping cough is beyond doubt an infectious disease The specific virus is contained in the sputum or vomit material or both Infection may take place either during the process of swallowing or by ingestion of the infective agent Cats are susceptible to whooping cough and therefore, may occasionally be the means of disseminating the disease

Original Articles.

SYPHILIS IN RELATION TO MENTAL AND NERVOUS DISEASES

By A W OVERBECK-WRIGHT, MD, DPH, LIEUTENANT-COLONEL, I.M S

To gain a proper understanding of this subject it is necessary to know how physical ailments act as agents in the production of mental symptoms

Briefly there are five ways in which this may arise —

(1) The debility and exhaustion arising from prolonged and wasting disease may affect not only the physical but also the cerebral functions, producing what is known as the Exhaustion Psychoses

(2) The effects of prolonged fever on the nerve-cell is a factor of considerable import According to Dr Mott when the temperature of the body rises above normal, there is first excitation of the neuron and then exhaustion owing to the oxygen stored up in the neuron being used up faster than it can be replaced, and hence the neuron loses its functional activity Destruction of the neuron, however, does not ensue from this exhaustion of its oxygen store recovery occurring with rest and storage of fresh supplies of oxygen Higher and more prolonged fever, however, produces a heat coagulation of the neuroglobulin and the consequent destruction of the neuron A certain amount of this coagulative change may take place without the death of the nerve-cells and this accounts for the recoveries which take place in some forms of hyperpyrexia when the cold bath is resorted to without delay 109 5° F is sufficient to produce this coagulation rapidly, and a temperature of 107°–108° F will produce it in about 4 hours

(3) Toxins either of micro-organismal or metabolic origin circulating in the bloodstream and gaining entrance to the cerebrospinal fluid may have a serious effect on the highly developed, extremely sensitive cells of the cerebrum, and the potency of these as ætiological factors is so clear that further elaboration here is unnecessary

(4) The direct effect of micro-organismal lesions in the brain, the cerebral membranes or the blood vessels of the brain causing destruction of nerve cells, or pressure on and irritation of the cells from their presence, or alterations in blood supply seriously affecting the nutrition of these cells, must be apparent to all as a very prominent factor in the production of mental disorders

(5) Lastly we have the psychic effects which are especially likely to arise with physical diseases such as we are considering here To gain a proper comprehension of these psychic effects, we must plunge briefly into psychology Emotion may be defined roughly as a state of mental feeling occasioned by occurrences which further or obstruct strong instinctive or acquired desires It is generally accompanied by a nervous disturbance originating an organic reaction, which is usually accompanied by definite physical sensations From this the corollary arises that organic factors giving rise to sensations similar to those accompanying strong emotions are capable of giving rise to "emotional moods," where there is a general trend of mental activity which particularises itself according to circumstances, *e g*, when a man is suffering from "liver" and exists in a constant state of irritability and bad temper, everything going wrong and giving rise to angry outbreaks

These emotional moods are important elements in the psychic production of mental disorders, tending to increase, to accentuate the "conations" or percepts connected with them This accentuation of the percept brings it more markedly into the field of attention augments its associative cohesion and its internal organisation until it gains complete ascendency over the mind, obsessions and delusions arise and we have a fully developed case of insanity to deal with

These emotional moods may also act by awaking past "mental conflicts" as well as increasing the stress of recent ones In such cases the emotional mood awakes some past impression which is associated with it purely by the physical sensation which accompanied the emotion roused by the past conflict and which is the cause of the present emotional mood Once roused, the past conflict reacts on the mental condition much as the recent one does and causes derangement in those of unstable minds

And now having briefly and crudely outlined the main lines by which these factors may attack mentalisation, we can begin to consider the results which they may achieve

The potency of the *Spirochæta pallida* as a factor in the ætiology of mental and nervous diseases has formed the subject of much research in recent years Like many other diseases, syphilis does not affect all its victims in a similar manner, thus in one case the viscera may be attacked while in another the vascular or nervous elements may be affected

I propose dealing first with cases, of arrested mental development arising from this cause and thereafter touching upon the various mental derangements which may arise in cases where mentally development has been complete

The causes of idiocy or arrested mental development may be grouped into three classes—prænatal, natal and post natal—and syphilis figures prominently in the first and

cases of pulmonary tuberculosis he could get no reaction at all, though he tried again and again On the other hand, sometimes there is a violent reaction He reports two cases tending to show that the instillation of Calmette's solution even when it gives rise to no apparent reaction, brings about a local change of some kind which responds sharply to the introduction of a moderate dose of tuberculin into the circulation It causes the conjunctiva to react locally exactly as a latent tuberculous focus would act

40 Appendicitis —Maylard gives the following as the conditions calling for operation- 1 Operation is imperative and immediate so soon as it is believed that the symptoms indicate perforation into the general peritoneal cavity 2 It is also imperative when, at the expiration of forty eight hours, there are wanting evident signs of improvement 3 It is advisable at the end of a week in all cases of acute appendicitis which have taken even the most favorable courses 4 It is indicated in all cases of subacute recurrent attacks of appendicitis He rests his advice in the third case on the grounds that at this particular period of the illness the operation is exceptionally easy and safe, and that it removes all possibility of future complications

Clinical Journal, London.

January 15

43 Case of Muscular Atrophy W P Harringham.
44 Surgical Diseases of Children A H Tubby
45 Pneumonia and Its Complications H Mackenzie

Journal of Tropical Medicine and Hygiene London.

January 1

46 Malarial Prophylaxis in Small Communities in British Central Africa R Howard.

Annales de l'Institut Pasteur, Paris

December XXI No 12 pp 929 1008

47 Relations Between Cobra Venom and Its Antitoxin A. Calmette and L Massol
48 Treatment of Experimental Infection with the *Trypanosoma gambiense* F Mesnil and M Nicolle
49 How to Combat Anaphylaxis. Besredka
50 Lesions of the Small Intestine of the Pig Produced by the Giant Echinorhynchus. Weinberg and Romanovitch
51 Trypanosomiases of the Ivory Coast G Bouet
52 Research on Opsonins. J G Sleeswijk.
53 Influence of Lactic Ferment on the Flora of the Excrements of Mice. J Belonovsky
54 Technic for Isolation of Anaërobic Bacteria F Marino

Bulletin de l'Académie de Médecine, Paris.

December 31 1907 LXXI No 45 pp 603 622

55 Rousseau a Sufferer from Unsuspected Urethral Stricture (Maladie de J J Rousseau) A. Poncet and R Leriche.
56 Abortive Local Treatment of Syphilis H. Hallopeau.

January 1 No 1 pp 1 52

57 Intoxication with Carbon Monoxid During Sleep Gréhant.
58 Importance of Daily Dosage of Gases in Air of Mines to Prevent Catastrophes and Apparatus for Measuring Gases. Id

Beiträge zur klinischen Chirurgie, Tübingen.

December 1907 LV No 2 pp 263 580

59 *Present Status of Operative Treatment of Acute Diffuse Suppurative Peritonitis G Hirschel
60 *Peptic Ulcer of the Jejunum T Schostak
61 *Pathology and Treatment of Splenomegaly with Cirrhosis of the Liver (Banti'sche Krankheit.) F R Nager and J Bäumlin
62 Laparotomy for Subcutaneous Rupture of Spleen. (Milzruptur) M Haffter
63 Operative Treatment of Exophthalmic Goiter (Morbus Basedowii) H Moses
64 Operative Treatment of Internal Hernias A Jaehne
65 Primary Angioma of the Muscles H Kolaczek

59 Operative Treatment of Acute Diffuse Suppurative Peritonitis —Hirschel's extensive monograph reviews the history of operative treatment and relates his experience with 110 cases He preaches the necessity for surgical measures in every case of diffuse peritonitis unless the patient is actually moribund Even in the most threatening cases the intervention is liable to induce a change for the better There are certain established indications for rinsing out the cavity, as he relates in detail, and he advocates the use of 1 per cent camphorated oil as a means of preventing further absorption of the exudate The incisions should be ample and be drained, tamponed and dressed as open as possible

60 Peptic Ulcer of the Jejunum —Schostak reports 4 cases from Krönlein's clinic and reviews 31 from the literature He discusses the possibility of the condition being due to peptic influences, that is, disturbances in the circulation and the digesting action of the acid juice, or to bacterial processes, and reviews the gastric measures effectual in prophylaxis

61 Splenomegaly and Cirrhosis of the Liver —Nager and Bäumlin assert that Banti's disease must be regarded as an actual disease entity, a primary affection of the spleen. Careful differentiation will exclude the many contradictions noticeable in the cases of alleged Banti's disease that have been published. It is particularly important to differentiate between inherited syphilis and cirrhosis of the liver The first (anemic) stage of Banti's disease is identical with primary splenomegaly and splenic anemia Splenectomy is the only correct treatment for these cases It should be supplemented by a Talma operation in the stage with ascites

Deutsche medizinische Wochenschrift, Berlin.

January 9 XXXIV No 2 pp 49 88

66 *Management of Third Stage of Labor (Nachgeburtsperiode) F von Winckel
67 Ocular Reaction to Tuberculin (Ophthalmoreaktion) E. Schenck
68 Measurement of Diastolic Blood Pressure in Man (Weitere Untersuchungen über Messung des diastolischen Blutdruckes) J Strasburger
69 *Treatment of Pruritus Kromayer
70 *Functional Diagnosis and Dietetic Treatment of Chronic Intestinal Catarrh (Darmdiagnostik und chronischer Darmkatarrh) L von Aldor
71 Coincidence and Connection Between Vasomotor Dermatoses and Achylia Gastrica as Part Manifestation of Congenital Asthenia. G Graul

66 Management of Third Stage of Labor —von Winckel found that the placenta was spontaneously expelled in 569 of 968 cases in less than half an hour, in 202 in one hour, and in 137 in less than two hours He advises expectant treatment to the end of the second hour In 40 out of 1,008 cases, that is in only 3 7 per cent, the placenta had not been expelled by the end of the second hour, and expression according to the Credé, Schroeder or Schatz technic became necessary He emphasizes the fact that these manipulations should be done only during a labor pain All the escaping blood and that accumulated in the placenta is caught in a bedpan If 500 gm have accumulated and the afterbirth has not been expelled, he loosens the placenta with two fingers, but adds that this is the most dangerous of all obstetric operations Whether it should be done with gloves or not is still open to discussion His total morbidity in 8,097 childbirths—1900 1904—was 14 86 per cent Ten European clinics have reported a better percentage than this, but seventeen others have had still higher morbidity The amount of blood lost ranged from 60 to 530 gm in the normal deliveries, an average of 225 gm, which is about the same or a little less than the average lost under more active measures for the third stage of labor He complains that too much attention is paid to operative and other active measures in the teaching of obstetrics, and that students are not trained to rely on Nature to the proper extent

69 Effective Treatment of Pruritus —Kromayer advises having plenty of prescriptions on hand for pruritus, as the various salves soon lose their efficacy and a frequent change is advisable He prefers tar and its derivatives, with, further, tumenol, menthol and sandal oil He has found the latter very useful He remarks that the treatment of pruritus, like that of eczema, is the touchstone for the skill of the dermatologist If the ordinary measures fail to cure the pruritus, he advises causal treatment by cauterization of the tiny serous blisters under the epidermis which he has found constantly in the pruriginous skin even in the very earliest stages of the pruritus He wipes off the itching region with cotton moistened with a 15 per cent solution of caustic potash After a few seconds transparent spots appear on the skin about the size of a pinhead When the skin is rinsed off with water, these spots are seen to project above the surface of the skin, looking like swollen and burst grains of sago These are the remains of the blisters The epidermis covering them opposes less resistance than normal skin to the action of the caustic, which thus eats its way into the blisters and destroys them in elective style As the itching is the result of the irritation from these blisters, as soon as they are destroyed the pruritus is cured for the

vomiting, convulsions, nystagmus and feeblemindedness are the objective phenomena.

A typical case generally begins from 3 to 6 months after birth, grave cerebral disturbances arising after, perhaps, a trivial knock on the head, or some gastro-intestinal or bronchial disturbance In such cases there is marked insomnia and nervous irritability leading to constant screaming and kicking The head is usually retracted and the eyes and fontanelles bulge, vomiting is frequent and nystagmus and irregular pupils are common, while pupillary reaction to light is often absent Pain is undoubtedly present in such cases, for the child cries and struggles and often seems to be trying, in a reflex sort of way, to brush away the source of the pain, pulling at its hair, grasping at its head, or rolling the head about The temperature as a rule, is normal in such cases, or only slightly raised, and there are none of the other symptoms which are typical of cerebro-spinal meningitis Such cases, however, are always a severe tax on our diagnostic powers and require much care and observation before a definite opinion can be framed

Friederich's ataxia is often found in several members of a family though it is seldom transmitted directly from one generation to another The first symptom noted, as a rule, is a change in the shape of the foot or clumsy movements of the arms and legs The legs are generally first affected and later on the trunk and arms become implicated in the course of the disease Weakness accompanies the ataxia and the main symptoms are those of ataxic paraplegia The tendon reflexes are lost and Babinski's sign is very commonly present, while pes cavus and lateral spinal curvature frequently develop The condition is due to degeneration and sclerosis of the posterior, lateral and direct cerebellar tracts of the cord and occasionally the antero-lateral tracts become implicated

Little's Disease covers a multitude of conditions, cerebral diplegias and hemiplegias arising from various lesions situated in as many sites comprising the bulk of them The main symptoms of cerebral diplegias are rigidity, weakness, involuntary movements and mental weakness, but these vary greatly in degree The rigidity, as a rule is greater than the weakness and leads very frequently to the "scissors legged gait" owing to predominant spasm of the muscles of the thigh Involuntary movements are most common in the hands and arms and take the form of "athetosis," *i e*, more or less rythmical movements in which hypertension is a prominent feature At times, however, these movements may take the form of tremors or be of an irregular choreiform character Epileptic fits are frequently associated with this condition In cases of hemiplegia the onset is, as a rule marked by fever malaise and convulsions and these are later followed by unilateral weakness and paralysis of the upper extremity most commonly, but the legs and the motor nuclei of cranial nerves are also liable to be affected At times the power gradually returns to the affected parts but, as a rule, considerable paralysis persists The later symptoms are much akin to the cerebral diplegias, *i e*, fits, mental deterioration and, perhaps, athetosis

Juvenile paresis and tabes show little difference from the adult forms and will be touched on when describing these

Having thus discussed briefly effects of syphilis on arresting mental development, we can turn to the consideration of its effects on the fully developed mind and thereafter briefly review its treatment

As has been already stated, the modes in which syphilis may give rise to mental symptoms are numerous Thus a cachectic condition may be produced by the action of the poison on the blood forming tissues , arterio-sclerotic changes may arise from its action on the blood vessels, or local or diffuse lesions of the brain and its membranes, such as gummata or sclerotic changes, may ensue, and lastly, the possibility of its forming the subject of a mental conflict and causing mental derangement through a purely psychic channel must be kept in mind One fact well worthy of note is that persons with a neurotic heredity seem by no means prone to be affected mentally by the syphilitic poison, in fact the experience of well-known authorities seems to point in the opposite direction

Savage has drawn up a scheme of the relationship between syphilis and insanity under 12 heads 1 Insane dread of syphilis 2 Insane dread of the results of syphilis 3 Syphilic fever, delirium and mania 4 Acute syphilis leading to mental decay 5 Syphilitic cachexia, dyscrasia and mental disorder 6 Syphilitic optic neuritis, suspicion and mania 7 Syphilitic ulceration, disfigurement and morbid self-consciousness 8 Congenital syphilis, cranial, sensory and nerve tissue defects 9 Congenital syphilis, epilepsy and idiocy 10 Infantile syphilis acquired 11 Constitutional syphilis (*a*) Vascular or fibrous (*b*) Epilepsy (*c*) Hemiplegia (*d*) Local palsies (*e*) General paralysis 12 Locomotor ataxy (*a*) With insane crises (*b*) With insane interpretation of ordinary symptoms

The first class comprises those who have an insane dread of syphilis, but in fact have never had the disease in any form It is in fact an obsessional insanity and has been termed syphilophobia The patient spends his days washing and scrubbing himself and his belongings, searching his body for symptoms of syphilis and worrying himself into a depressed delusional state in which suicide is common

Such cases, as a rule, fall into two classes, the would-be puritan and world reformer, absolutely innocent and unsophisticated, who

in others not until after a year and a half, and the patient personally reported has been under supervision for three years Differentiation is possible only with histologic examination of one of the nodules There seems to be a marked tendency for the arteries to rupture, causing aneurysms and free extravasations of blood, as the blood pressure becomes abnormally high In conclusion, he reviews the points that differentiate this affection from others resembling it in some points Mercury and potassium iodid have given good results in some cases In the personal case, potassium iodid was given after the patient had showed a pronounced tendency to a spontaneous cure, and it did not seem to have much to do with the continuous improvement, although Benedict adds that he would always give mercury and the iodids a trial in such cases

101 Pathogenesis of Paroxysmal Hemoglobinuria.—Chorosch ilow has had a case of paroxysmal hemoglobinuria under observation for three years His research has convinced him that the trouble is not due to autointoxication, nor to disturbance in the metabolism or nervous system, as some authors have surmised, but that it is rather a special affection of the red corpuscles, probably the work of some anomaly or affection of the blood forming organs The red corpuscles seem to be made with some defect which renders them particularly sensitive to cold, while healthy red corpuscles are comparatively resistant to the influence of cold Marked improvement is sometimes observed equivalent to a complete cure lasting for a long time In this and in a second case potassium iodid proved apparently beneficial The second patient, a man of 23, had a history of syphilis, but had never had malaria The first patient, a man of 32, had a single, brief attack of malaria twenty years before with a suspicion of syphilis In both patients the attacks of hemoglobinuria followed exposure to cold, even cool summer weather was sufficient to bring them on Vasoconstricting drugs seemed to have no power to arrest or abort an attack

Gazzetta degli Ospedali, Milan.

December 22 1907 XXVIII No 153 pp 1603 1618

109 *Efficacy of Amyl Nitrite in Arresting Tuberculous Hemoptysis. (Nitrito d amile nella cura delle emotisi tubercolari) A Braga
110 Koplik's Spots as Sign of Measles (Sintomo di Koplik nel morbillo) B Nicola
111 Reliability and Harmlessness of Ocular Reaction to Tuberculin (Oftalmoreazione alla tubercolina) G Dameno Id Paronzini in No 156
112 *Spinal Anesthesia (Rachistovalnizzazione.) R Cinaglia
113 Study of Population in Malarial Focus (Influenza della malaria sul movimento della popolazione in Alello e in Terrati.) F Sollmena.

December 29 No 156 pp 1635 1650

114 Diabetes Mellitus E de Renzi Clinical lecture
115 Case of Spinal Apoplexy Following Severe Chilling F Bambac.
116 More Rapid Course of Experimental Tuberculosis After Preceding Diplococcus Infection G Romanelli

January 5 XXIX No 2 pp 9 24

117 Treatment of Tuberculosis with Maragliano's Serum Monti.
118 Diagnosis and Treatment of Venereal Ulcers C Ventura
119 Technic of Thoracentesis (Toracentasi pneumatica) V Fontana
120 Sodium Sulphate in Dysenteric Enterocolitis in Infants. A. Ciccarelli
121 The Paralysis of Osteomalacia G Bassi
122 Spontaneous Cure of a Primary Suppurating Echinococcus Cyst in Left Lung F Piperno
123 Lumbar Puncture in Chronic Hydrocephalus (Idrocefalo cronico e puntura lombare) A. Gasparini

109 Amyl Nitrite in Tuberculous Hemoptysis.—Braga has used amyl nitrite fifteen times in seven cases of hemorrhage from tuberculous lungs and each time has been impressed with the prompt action of the drug and its efficiency in these conditions The hemorrhage was arrested as if by magic, blood ceased to accumulate in the bronchial passages and thus the evil effects of its decomposition were avoided Five or six drops of amyl nitrite on a wad of cotton were inhaled, and the hemorrhage ceased at once and did not recur in the majority The inhalations were repeated several times afterward during the day It proved effectual even in cases in which no other measure had given relief He supplemented the nitrite by the slower acting action of an enema of gelatin to which calcium chlorid had been added, with fluid extract of hydrastis internally Since this technic has been adopted no patient has succumbed to hemoptysis, and whenever it appears it is speedily controlled

112 Spinal Anesthesia with Stovain.—Cinaglia reviews the various mishaps that have been published in connection with spinal anesthesia, and reports two cases in which it was followed by intense headache and cramps, persisting for ten days in one case Severe pains resembling sciatica were noted in another patient, they have persisted for several months to date with brief intermissions Another patient had paralysis of the rectum and bladder for several months after the operation, with pains in back and abdomen and in the legs The symptoms have gradually subsided and a complete cure is anticipated soon He remarks in conclusion that spinal anesthesia is superior to all other technics, although it is still far from ideal, he advises its application only in the cases in which it is absolutely necessary, with correct technic and dosage thus avoiding accumulation of statistics which throw discredit on a method which gives fine results under proper conditions and which may prove the best of all when further perfected.

Hygiea, Stockholm.

December 1907 LXIX No 12 pp 1171 1282

124 Study of Growth of Tubercle Bacilli in the Kidneys in Tuberculous Nephritis (Tuberkelbakteriernas växttopografi i njuren) G Ekehorn
125 Mercury Snuff in Treatment of Syphilis (Kvicksilfer vid behandling af syfilis) C Cronquist.
126 Study of Pulse and Blood Pressure and Appearance of Albumin in Urine After Foot Races K. A. E Fries
127 Acute Morphin Poisoning in Ten-day Infant. A. Kaljser
128 Circumcision from the Historical and Medical Standpoints. (Omskärelsen från kulturhistorisk och medicinsk synpunkt.) C M Fürst.
129 Physical Development and Health of Public School Children I Norlinder

Norsk Magazin for Lægevidenskaben, Christiania.

December 1907 LXVIII No 12, pp 1361 1480

130 Five Unusual Cases of Cesarean Section E Rode
131 *The Human Relics Found at Oseberg Dating from the Days of the Vikings (Osebergskibets menneskeknokler fra den yngre jernalder) G A Guldberg
132 Scrofula C M F Sinding Larsen

January LXIX No 1 pp 1 220

133 Importance of Trauma in Origin and Development of Tuberculosis (Traumaets betydning for tuberkulosens opstanen og udbredning) Id
134 Ocular Reaction to Tuberculin (Oftalmoreaktion) K. Thiis
135 Clinical Importance of Infiltration in Muscle and Connective Tissue (Muskel og bindevævsinfiltraters kliniske betydning) F Grön

131 The Oseberg Human Relics.—Guldberg gives an illustrated description of the human bones found at Oseberg in 1904, dating from about the eighth century The bones are evidently parts of two female skeletons buried with much ceremony, near them were the skeletons of about twenty horses and a number of dogs and pigs Some of the horses had been decapitated The human bones show pathologic processes one a general tendency to osteoplastic growths, as shown in the hyperostosis of the frontal bone, knees and vertebræ, while the other skeleton shows asymmetry and various defects

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits or in the interest of our readers

DISEASES OF THE HEART By Professor Th v Jürgensen, Tübingen Professor L Krehl Greifswald and Professor L von Schrötter Vienna Edited with Additions by George Dock M D Professor of Theory and Practice of Medicine and Clinical Medicine University of Michigan Ann Arbor Authorized Translation from German under the Editorial Supervision of Alfred Stengel M D, Professor of Clinical Medicine in the University of Pennsylvania. Pp 848 Cloth Price $5 00 Philadelphia W B Saunders Co, 1908.

THEORY AND PRACTICE OF HYGIENE By J Lane Notter Revised and largely rewritten by R H Firth Lieut Colonel Royal Army Medical Corps Third Edition Cloth Pp 993 Price $7 00 Philadelphia P Blakiston's Son & Co 1908

THE PYONEX ITS THEORY AND PRACTICE By W B. Rule M R C S L R C P Cloth Pp 572 Price $3 00 London John Bale Sons and Danielsson Ltd 1907

BIENNIAL REPORT of the Board of Managers of the Springfield State Hospital of Maryland Paper Pp 90 Baltimore Sun Book and Job Printing Office 1907

FLEVENTH BIENNIAL REPORT of the North Carolina Board of Health Paper Pp 105 Raleigh E M Uzzell & Co 1907

REPORT OF TRUSTEES of Bellevue and Allied State Hospitals Paper Pp 24 New York Martin B Brown Co 1907

disturbances, the violence of the spirochæte having long since become exhausted

Paralyses of all kinds are met with in this group and are due to localised gummata, external or internal, to the structures involved, to diffuse interstitial deposit, or proliferation of destructive tissue Gummata may occur in the brain itself, or in its membranes, or the latter may undergo a chronic thickening resembling chronic meningitis Vascular degeneration frequently leads to miliary aneurisms, the rupture of which is so often the cause of hæmorrhage and hemiplegia

In these conditions the cerebral and spinal nerves are liable to become involved This involvement may be central, with or without coincident brain involvement, or it may be peripheral affecting any or all of the parts of the nerve distribution

The mental symptoms in such cases vary greatly in intensity according to the site and extent of the lesions They are usually somewhat late in becoming manifest, being preceded as a rule by motor phenomena Where the lesions are diffuse, as in chronic meningo-encephalitis, a progressive mental deterioration is the rule, with marked loss of memory and derangements of speech Such patients are generally irritable and liable to outbursts of violent maniacal excitement, while convulsive seizures may occur The pulse in such cases is rapid and irregular, and arterial tension low Many of these patients die from syncope or exhaustion

Where the lesion is localised, the later stages are always marked by more or less pronounced mental changes, and at times mental manifestations may be an early and important manifestation of the disease In chronic cases, where the tumour growth is slow, the most common condition is one of gradually increasing lethargy and somnolence Such cases think and speak slowly and with difficulty, their movements are slow and awkward, they take no interest in their surroundings and have apparently no interest in life and certainly seldom seem to have any wants or desires

In cases of acute onset, such as occurs in hæmorrhage or embolism where sudden alteration in the cranial pressure occurs, the mental symptoms are much more acute Restlessness and delirium are common in such conditions and hallucinations of sight and hearing often terrify the patient Lesions of the frontal lobes are more liable to be accompanied by early mental symptoms than are lesions in other parts of the brain, but a growth may exist in the frontal lobes and yet give rise to no mental derangement whatsoever

The rate of growth of the lesion is important as regards the mental manifestations, a rapidly growing tumour giving rise to more numerous and more marked mental disturbances than one of slow growth

To sum up briefly, we may say that progressive loss of memory and the power of cognition are the most common mental concomitants of organic lesions of the brain and may render the patient wholly unable to look after himself and apparently regardless of common decency As the disease advances the mental condition becomes more marked, and the patient finally becomes bedridden and hopelessly demented

True cerebral syphilis, as a rule, developes within ten years of the primary infection, and the greatest danger of its developing lies in the first three or four years after infection, the risk decreasing with each additional year

G P I may be defined as a progressive degeneration of the central nervous system, but more particularly of the motor centres, in which remissions and arrest of the progress of symptoms are common, epileptiform or convulsive seizures often occur, and with which there is always associated a progressive mental enfeeblement

For many years G P I was said to be unknown among Indians, and even now many practitioners would be extremely loathe to diagnose the condition My experience, however, is that it is very much more prevalent than is commonly supposed, and that more careful, unprejudiced diagnosing would confirm this

G P I is now acknowledged to be purely a terminal syphilitic manifestation - It is met with more frequently among urban than among rural populations and effects men more often than it does women It may occur in childhood, adult life, or old age, but is most commonly and typically seen among men between 35 to 45 years of age Only a small number of cases—7 to 3 per cent—have an hereditary nervous taint, but from 70 to 90 per cent give a history of acquired syphilis, and all the cases I have seen, which occurred in the age periods up to 20, either had a history of congenital syphilis or, if this was denied, their appearance and the results of examination gave ample testimony as to the condition

Statistics as to the incidence of G P I among syphilitics are hard to find, the only ones I know of being those by Mattauschek and Pilcz, published in the Berliner klinische wochenschrift, February 19, 1912 As a result of their investigations into the histories of 4,134 officers of the Austrian army who had contracted syphilis during the period 1880–1890, they found that 4 67 per cent developed G P I

sphincter can be saved It is only of the second class that I wish here to speak It includes not only the high cancers of the rectum but also those of the middle or ampullary portion

In the first place the surgical principle, which alone in these days is applicable to the removal of cancer, is that of a block dissection of tumor and glands, including not alone the palpably involved glands but also those which belong to the same lymph territory and are "suspects" With regard to cancer of the rectum, Gérota[21] has shown that the glands which immediately drain it run up to, and often a little above, the promontory of the sacrum In operating for cancer of the rectum it is imperative to remove all these glands, and naturally with the glands must go the bowel also, in the mesentery of which they lie With the access given by the sacral opening which does not extend above the third sacral foramen (Fig 2) it is difficult, if not impossible, to remove the glands that lie above this point and which may extend as high as, or even above the promontory Therefore, on this basis the sacral operation is *ab initio* incomplete and consequently unsurgical, and it can hardly be doubted but that this fact is to a certain degree responsible for the frequency of recurrence in rectal cancer

This is, to my mind, the fundamental objection to the

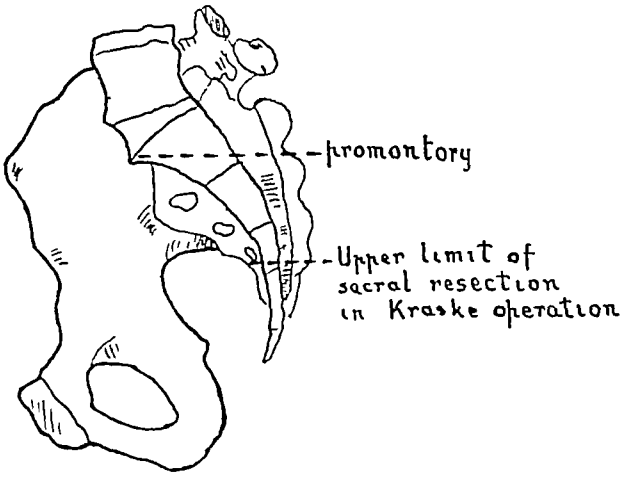


Fig 2.—Showing how poor is the access obtained through the sacral opening for the removal of high tumors and of the rectal glands which extend up to the promontory (Tracing of Fig 167, vol. 1 of Spalteholz-Barker Anatomy)

Kraske operation So true is this that Kraske himself, the father of the operation, at the Twenty-ninth German Surgical Congress, roundly declared himself in favor of the combined abdomino-sacral operation, to the end of a more thorough removal of the disease, for the stated reason that the sacral operation alone was followed too regularly by recurrence The corollary is that only from the abdomen, or at least with the help of an abdominal incision, can a really thorough eradication of the dependent gland territory be made In this point the abdomino-perineal operation is right in principle

In the second place, it being granted that the bowel and the glands must be removed as a routine procedure from the level of the promontory, it becomes evident that the proximal end of the bowel will frequently be too short to pull down to the distal stump or to the anus, or, at least, that if brought down it will be under a tension such as to invite necrosis Constantly throughout the literature of the sacral operation one meets the mention of this difficulty and the consequent falling back on a sacral anus, or, if united, the occurrence of necrosis and fistulas As to the effect of tension, any pull on vessels narrows their caliber, and Rehn has shown that in bringing the upper rectum or sigmoid down under tension there is a very decided pull on the superior hemorrhoidal artery, and if the pull be great the inferior mesenteric itself may become kinked It is conceivable also that the superior hemorrhoidal is easily compressed against the projection of the promontory if the bowel is brought taut across the latter In an excision a year and a half ago by the vaginal route the bowel, which I had brought down from about the level of the second sacral to the anus under very slight tension, underwent necrosis for the last inch or more Other reasons which have issued from certain injection experiments detailed below will be mentioned later

The sacral operation, moreover, as already said, is apt to damage sphincteric action by cutting its nerve supply Even Hochenegg and Kraske secured fecal control only in half of their sacral cases in which the continuity of the bowel was restored For these main reasons I believe that the sacral operation as a type procedure should be abandoned.

The Quénu-Mayo operation effects an ideally wide removal under the best conditions of asepsis, and in that sense is surgically perfect Nevertheless, it is exposed to two objections, of which the first is its routine establishment of an artificial anus To sacrifice deliberately in every case all hope of the natural evacuation of the bowels will always seem to most of us a sad confession of failure, nay more, a distinct step backward One may be ready to admit that a good iliac anus with a sigmoid trap and an intermuscular insertion may be a very comfortable thing, but the patient will rarely take that view of it To him it is nearly always the worst kind of a *pis aller* One of Reverdin's[22] patients, it is true—a lady in whose case he had been obliged to establish a permanent left iliac artificial anus several years previously—remarked to him one day "Je ne comprends pas que le bon Dieu ne nous ait pas mis le derrière devant, c'est bien plus commode" An observation of a truly Gallic nature, difficult to turn into proper English Against this, however, might be set the opinion of a patient of mine, likewise a Frenchwoman, who has had a perfectly functionating artificial anus for two years past, yet maintains that she would much rather be dead and pass no stools than alive and pass them as she does This more truly represents the general opinion Indeed, Mayo naively remarks that "for sentimental reasons a large number of patients elect the posterior operation even after careful explanation"

The second objection to the abdomino-perineal method lies in the fact that, at least in men, its operative mortality is so high, even in expert hands That of the sacral operation was due rather to infection than to shock, that of the combined method may perhaps be due rather to shock than to infection And the shock, as I believe, is due not alone to the extra time needed or the extra blood lost, but also, as Crile has shown, to the extra wounding of sensory nerves The severity of the ordeal is seen in the results reported by Quénu and Mayo If past masters in the handicraft of surgery like the Mayo brothers, working, moreover, together in this operation for greater speed, lose so many as the result of the operation, how many will the less expert man lose? An exception might perhaps be made of the female cases in which, according to Ito and Kunika, the operative mor-

21 Arch. f Anat. u Physiol (Pflüger) Anat. Abtheilung 1895

22. Bull et Mém de la Soc. de Chir, Paris xxiii p 409

limited to syphilis of the nervous system however It is marked in sleeping sickness and is often also high in tuberculous meningitis, though here usually accompanied by polymorphonuclear leucocytosis Lymphocytes have also been found in multiple sclerosis, in the acute stage of poliomyelitis, also in cerebrospinal meningitis and herpes zoster Hence much the same remarks apply here as to serology In treatment particularly, the grade of lymphocytosis is a fairly accurate guide as to the severity of the process In cerebrospinal syphilis particularly, a diminution in the number of lymphocytes goes on *pari passu* with the efficacy of the treatment This rule, however, is not nearly so absolute for tabes and G P I, for here diminution in the lymphocytes may occur without any alleviation of the symptoms This diminution in the lymphocytes in cerebrospinal syphilis has taken place with both mercurial and arsenical (salvarsan) therapy

(4) *Chemical examination of cerebrospinal fluid*—Here the main test is the estimation of the amount of globulin contained in the fluid Most fluids contain a reducing agent which reacts with Fehling, and in large quantities it may indicate a tuberculous meningitis, it has no relation, however, with the conditions we are considering at present

Increased globulin content is markedly present in G P I and locomotor ataxy and also, but in lesser extent, in cerebrospinal syphilis

It is not infrequently present also in cases of tumours of the spinal cord, both syphilitic and non-syphilitic in character This reaction tends to follow the course of the lymphocytosis and is frequently at variance with the Wassermann findings

Alone any one of these four methods gives no positive information in the differential diagnosis of the various types of syphilis of the nervous system, but, when read together, they form important guides to diagnosis and treatment

Having thus briefly outlined the laboratory methods at our disposal in diagnosing and treating these conditions and pointed out, as far as possible, in the brief space at our disposal, the indications to be derived from these, let us now turn to a consideration of the treatment of syphilitic nervous diseases

This is best done under two heads, *viz* (1) Specific inflammatory conditions, *i e* active inflammatory conditions affecting the cranial bones, meninges, vascular and lymphatic vessels or the cerebral tissues (2) Chronic meta-syphilic or para-syphilitic processes, such as tabes and G P I In the actively inflammatory conditions the treatment of cerebral syphilis is often productive of excellent results, provided the patient will co-operate wholeheartedly in the treatment and not be led to abandon it too soon on account of the alleviation, perhaps the complete disappearance, of symptoms

Cerebral syphilis is, as a rule, due to the presence of active spirochætæ, hence our treatment has to be directed against this organism and our standbys here are mercury, arsenic and iodine Mercury and arsenic are markedly toxic to this organism, while iodine, though but feebly potent in this direction, has very marked effect in promoting the absorption of broken-down syphilitic tissue or its products

The treatment of nervous syphilis then should be an attempt to follow out a general anti-syphilitic treatment and, owing to the structural peculiarities of the nervous system, the disastrous results which may accrue from comparatively small lesions and the often insuperable difficulties in the way of repair of nervous tissues, our action must be prompt and complete

One has always to remember that cerebral syphilis may exist with a negative Wassermann reaction in the blood, and hence this must not deter us from active measures if there be symptoms of diagnostic import In this connection also it is well worth remembering that lymphocytosis may be present in the cerebrospinal fluid months or even years before the appearance of any definite nervous signs and lumbar puncture is too often neglected in cerebral syphilis

In the treatment of nervous syphilis, too, problems of a special kind are very common, such for instance, as a case of thrombosis, where the syphilitic disease may not be in the nervous tissues at all but in some fairly distant blood-vessel The syphilitic condition about the blood-vessel may yield to treatment, but the degeneration in the area of the brain affected by the thrombosis cannot be prevented

The activity of the drugs at our disposal varies greatly in rapidity Iodides by the mouth, in doses of 30 grs per diem, show evidence of action in about seven days Hg by inunction shows results in about five days, while the newer arsenical preparations show signs of reaction in 48 to 72 hours Owing to the smaller toxic action of iodides, they are contraindicated in lesions characteristic of the more active stages of the spirochæte, such as the basal meningeal types of acute onset

Where time is at our disposal, *i e*, in cases of less urgent type, treatment by inunction, combined with the iodides by the mouth, is our great standby

Of various preparations, perhaps, oleate of mercury is preferable, being comparatively cleanly and producing results as rapidly as any other mercurial preparation applied to the skin A drachm of the 10 per cent oleate should be well rubbed into the skin

skiagram in Figure 4 shows the result. There was an exceptionally free collateral circulation established in this case—*from the middle colic right down to the terminal branches of the superior hemorrhoidal* by way of the mesenteric border loops It is probable, however, that the injection found its way by a short cut, which had escaped ligation, into the superior hemorrhoidal and that the collateral circulation was not by anastomosis with the lowest sigmoid. The mesentery with the blood supply up to the splenic flexure might here have been cut for mobilization without ill effect, if ligatures were placed as in this specimen

3 Body of an Adult—The superior hemorrhoidal and the sigmoid root were tied. The injection penetrated to the lower end of the sigmoid and very slightly into the rectum

4 Body of an Adult—Ligatures placed on the left colic, the sigmoid root and the superior hemorrhoidal arteries Injection from the thoracic aorta, the injection penetrated nearly but not quite to the bottom of the sigmoid loop

5 Body of an Adult—In the fifth specimen (Figs 5 and 6) the operation subsequently proposed as the type procedure, was carried out The bowel was resected from about the middle of the pelvic colon opposite the promontory to within two

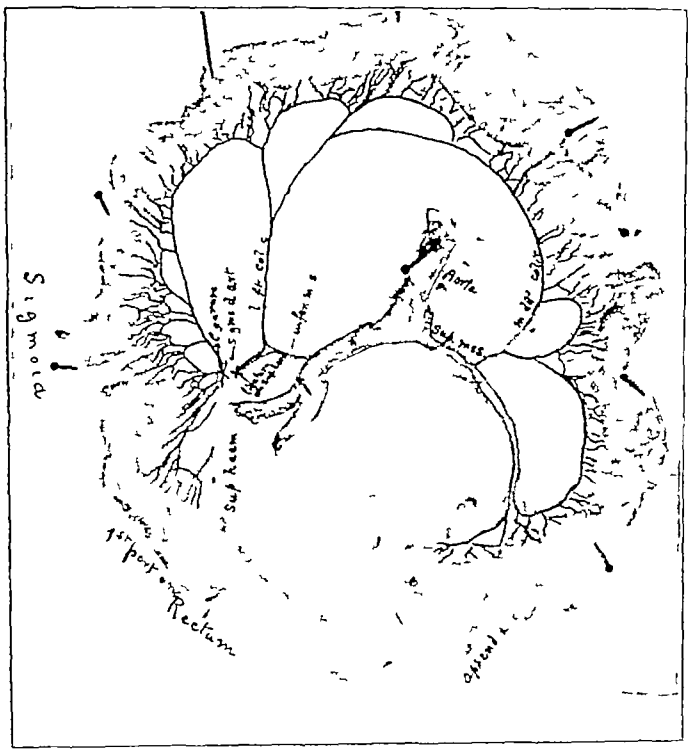


Fig 3—Skiagram Ligature of sigmoid and superior hemorrhoidal arteries near their origin at points marked X, followed by injection from thoracic aorta. The bowel is viewed as from behind. The arterial network stands out in the skiagram because of the red lead in it. Note how amply the sigmoid has been supplied from the left and middle colic arteries by way of the large border loops also how the supply diminishes steadily in the border region between the lowest sigmoid artery and the superior hemorrhoidal which corresponds to the first portion of the rectum according to the classic description that is from the promontory to the third sacral vertebra. The anastomoses with the superior hemorrhoidal are poor Although the latter vessel seems to show in the skiagram as an irregular patchy line it was in reality not injected its appearance is due to a ridge of mesentery inclosing the vessel accidentally smeared with the injection fluid Outlines of the arteries injected heightened with india ink to guard against their possible disappearance in the process of large reproduction

inches from the anus, the portion removed measuring 10 inches after preservation in formalin The proximal end was freed by ligating the superior hemorrhoidal and the sigmoid vessels at their root and dissecting off the iliac colon (fixed portion of the sigmoid) by blunt stripping from its bed in the iliac fossa. In addition (although this was quite unnecessary for the purpose of bringing the bowel down to the anus, abundant slack having already been obtained), the whole descending colon was mobilized (as usual, there was no mesocolon) by cutting the serosa on its outer side from pelvis up to splenic flexure, and then stripping it bluntly from the posterior wall In this way it could be brought very easily over to the middle line The bowel end was thus brought down and pulled through the lower fragment, projecting about two inches outside the anus, and while in this position the body was injected from the thoracic aorta As the skiagram (Fig 6) shows, the circulation is fully maintained right to the end. The loosening of the descending colon in particular by blunt stripping of it across to the middle line had not interfered in the least with its blood supply, nor had it cut vessels of any consequence in the retrocolic fatty and areolar tissue, inasmuch as there was no exit of the injection fluid in this region

This experiment in particular, together with the previous ones, seemed to me to prove that the fears of Kummell and De Quervain as to the insufficiency of the collateral blood supply to the sigmoid when the arteries of the mesosigmoid are tied, were without foundation, although quite justified in the case of the first portion of the rectum, that is, the lowest portion of the pelvic colon There are but two danger zones that have presented themselves in these experiments 1, The zone of anastomosis between the lowest sigmoid and the uppermost superior hemorrhoidal branches Here the anastomosis is poor as compared with that of the blood supply to the bowel above this point, and in the experiments the injection rarely penetrated to any extent into the upper rectum if the superior hemorrhoidal were tied This artery runs a long course from its origin in the inferior mesenteric over the promontory and down to about the third sacral vertebra before it bifurcates into its terminal lateral branches In this long course, as I have verified in a series of dissections, it gives off but one or two vessels, and these comparatively small ones, to anastomose with the lowest of the sigmoid branches and form a mesenteric border loop The poverty of communication is seen in the illustrations (Figs 3 and 4)

It is altogether likely that the reason for the constant tale of necrosis and fistulas as complications of the Kraske operation lies in the fact that the bowel is very apt to be cut off about this region in the sacral operation, and that in order to bring it down to the lower end its mesentery or the retrorectal tissue, containing its blood supply, is cut too close to the bowel in the effort to free it This partial interference with blood supply in a region already but poorly nourished, comparatively speaking, together with the slight tension under which in many cases the bowel is pulled down, suffices probably to induce a certain amount of necrosis in the upper fragment in those cases which develop fistulas after circular suture

One further contributing factor, as I believe, lies in this, that the superior hemorrhoidal in its course over the promontory does not lie close to the bowel but far back in the lumbo-sacral root of the mesentery of the pelvic colon, approaching the rectum at an angle, like the string of a bow, and ultimately becoming closely applied to the rectum only at the third sacral vertebra Consequently the mesentery of the pelvic colon as it approaches the rectum must be cut very far back from the bowel and very close to the sacrum if the superior hemorrhoidal is to be preserved Being severed, as it nevertheless frequently must be in the freeing of the bowel, the circulation has to depend on the one or two small anastomotic branches communicating with the lowest sigmoid branches above the point of ligation, and these are apt to be insufficient Moreover, they, too, may be cut in freeing the bowel because they come off from the

of the patient One hour afterwards the blood was withdrawn and separated from its corpuscles, after 24 hours, it was diluted to 40 per cent with normal saline and heated to 56 degree C for 30 minutes A lumbar puncture was then done and fluid withdrawn till the pressure fell to 30 m m , and then 30 c c of the warmed serum is injected slowly into the space. The injection should be repeated after 10 to 14 days

2 *Chronic forms*—Here, in early stages where signs of dementia are absent, combined mercurial and salvarsan therapy gives by far better results than either mercury or salvarsan alone Later on when signs of dementia are present, salvarsan is contra-indicated as it simply seems to precipitate the dementia, and vigorous treatment with mercury and iodides are our only resort though even with them the prognosis is of the gloomiest

Purely psychic cases, of course, such as the first two of Savage's groups, require merely the ordinary treatment for neurasthenia and hysteria, tonics cold bathing, patient reasoning, etc , and if possible, removal from home surroundings and residence in a "home" or some quiet country place, in charge of a kindly but strong-minded attendant

A SURGICAL TOUR IN THE UNITED STATES AND CANADA

By HENRY SMITH, C.I.E.,
LIEUTENANT-COLONEL I M S (*retd*)

THE Ohio State Medical Association asked me to address their annual meeting in May last on the "Treatment of Cataract" I accepted As all the State Medical Associations hold their annual meetings in May June and July they then arranged a tour for me over the various States to address them on some ophthalmic subject

At first I declined invitations to operate because I had not my own trained assistant with me nor would the cases be under my control after operation I consented however, to operate at the Ohio meeting as so many of the surgeons there had spent considerable periods with me in India

After my arrival in New York on the 24th of April so much pressure was brought to bear on me by ophthalmic surgeons wishing to see the intracapsular operation that I agreed to operate at other places so that is why so many of the clinics had to be raised on very short notice

On my arrival in New York I found everything ready for me including my time table I spent on an average about two nights a week in the train so I was kept quite busy The hospitality I received was lavish and the reception I met with from every one was almost overwhelming from every point of view—personal national and scientific Though I was not in America on any official footing, the American War Office put an aeroplane at my disposal My American medical friends arranged also that I should see their President at Washington

It is impossible in a short article to thank all those who individually gave me hospitality and who also gave me the opportunity of demonstrating practically extraction of cataract in capsule Through the names of Dr Vail of Cincinatti and of Dr Meding of New York, I would like to thank all those who so fully co-operated with them The former took charge of the general arrangements and the latter took charge of me The arrangements were admirable in every detail and must have given those concerned a great deal of thought and trouble

In Canada I was received with the same warm welcome as in the United States of America

It was well known that I was not satisfied with the older operation for cataract and after cataract In America and Canada they wanted me to speak on these subjects and to discuss them from every point of view in no hurried or stereotyped fashion They were anxious to talk over these subjects individually and informally in all their aspects as I was supposed to have experience of every variety and of every complication possible in quantity I think I was able to interest them Anyhow I was able to give them definite opinions and my reasons for such opinions

The clinical material put at my disposal was ample The clinics ranged from twenty up to seventy-eight cataracts with a large number of cases of other intraocular conditions requiring operation Altogether I operated on over 500 cataracts A considerable percentage of the cases produced was of the class that would be called second and third class risks in insurance phraseology

The Americans recognised this fact and knew that many of the cases brought to me had been "turned down" I did not object to this , indeed, I welcomed these cases so long as the man in charge and the patient recognised the risk These cases were much more interesting to the American surgeon and to me than the ordinary normal cataract The patient was already blind and could be no worse , like a sensible man he was prepared to take risks I on my side knew very closely what the risk amounted to and thus was able to operate on these cases with a small percentage of failures In normal cases I had practically no failures, "second and third class risks" would include diabetics , cases with the iris tied down to the lens, cases of night blindness, cases with some choroidal degeneration, etc The American surgeon was interested to see that night blind cases were as

interfere with the free mobilization and descent of the descending colon on necessity If experience should prove its advisability, it would best be done not as a preliminary but at the close of the operation when all the bowel that was necessary had been brought down

Whatever the anesthetic employed, the abdomen is opened through a median incision, and the amount of involvement estimated If inoperable, the least harm has been done the patient. If operable, the patient is placed in the Trendelenburg posture, the incision enlarged, the sigmoid loop is pulled out of the pelvis, and it is determined at what lowest point it may be cut across This will depend on the extent of glandular involvement Even when no glands are palpable the bowel must not be cut through at any level lower than that of the promontory, for the glands in its mesentery are in suspect territory up to that point But if the glands higher up, in the mesosigmoid or along the iliac or the inferior mesenteric arteries, be involved, and if the

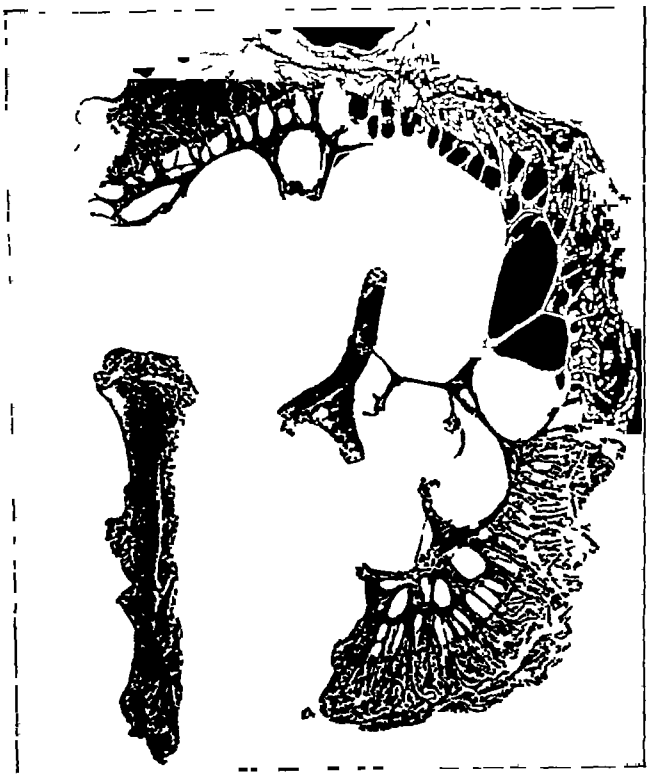


Fig 5—Photograph of specimen of which Figure 4 is a skiagram of a portion Showing bowel cut through in lower third of sigmoid and in right half of transverse colon also the portion of sigmoid and rectum excised, which measured ten inches after preservation in formalin.

operator consider that this fact is no sufficient bar to an attempt at radical operation, then it will be necessary, probably, to cut through the bowel higher up in the flexure Just how high will depend on the width of the mesosigmoid, which may safely be left after removing widely the glands mentioned

One need not fear to remove the bowel high up for the sake of thoroughness, the higher one goes in the sigmoid flexure the more certainly is the blood supply maintained when one comes to cut the mesentery for mobilization, and, on the other hand, one can always get sufficient mobilization, even if one be forced to detach the whole descending colon to do it. Nevertheless it is manifestly better to save as much of the length of bowel as possible

At the point chosen the bowel is crushed with an angiotribe, doubly ligated in the furrow, cut between, the ends cauterized, and each end inturned with a purse-string suture

The lower segment is then pulled forward taut toward the pubis, thus putting on the stretch the superior hemorrhoidal artery which runs in the lumbo-sacral root of the mesentery of the pelvic colon This is doubly tied, as also the vein, and is cut between The peritoneum is now cut with button-pointed scissors on either side of the rectum down to the peritoneal reflection in the cul-de-sac, and there transversely across The bowel with the growth can now be peeled off with all the fatty and areolar tissue behind it from the hollow of the sacrum down to near the tip of the coccyx, this, according to Chalot, Kraske, R F Weir, J B Roberts and others, will cause but slight bleeding, and the necessity for mass ligature may be quite avoided It was remarkable how in the operation on the cadaver after proceeding as described, the sacral hollow was not invaded by the injection fluid It seemed as if one might confidently expect in the living but very little arterial bleeding at any rate Possible venous bleeding might easily be stopped by packing It has been advised to tie the middle sacral at the promontory This is easily done, and might be of some advantage, as it sends a few small branches to the rectum as well as supplying in part the retrorectal tissue Yet in one cadaver, in which I ligated it, the injection fluid penetrated it from below very freely through anastomosis with the lateral sacrals The advantage therefore is doubtful

In front the rectum can be peeled off from the basfond of the bladder without great difficulty By this time one has got close down on the pelvic floor, and, in the case assumed, one is far enough below the growth to cut across the bowel at this point, that is, about two inches above the anus One is still in many cases above the middle hemorrhoidal vessels, which may very well not need tying If it be necessary to go a little lower, it is not difficult to isolate, still from the abdomen by blunt dissection, the lateral expansions of the pelvic aponeurosis which enclose the middle hemorrhoidal vessels, and which are so resistant as to be called by Poirier the lateral ligaments of the pelvic rectum These can then be ligated easily from above The rectum, with all the contents of the sacral hollow inside the aponeurosis which covers the branches of the iliac vessels and the sacral plexus—neither of which one need see at all in the operation—is now freed

At this stage of the operation I would prefer to cut the rectum across just above the levator ani muscle and accept the risk of infection This, with careful packing, with clamping or ligating, and with cauterizing, need not be great

The lower segment is then to be pulled outside the anus, turned inside out This is best done by an assistant, the table being lowered to near the horizontal, and the thighs held semi-flexed and abducted He must stretch the sphincter, then pass three or four pairs of volsellum forceps up and grip the bowel at different points of the circumference, from the mucous surface through all its coats, and so by pulling evert it

Meanwhile the operator proceeds with the mobilization of the upper segment in the manner already described Ball[27] has said that if the sigmoid loop be not longer than six inches, it will be impossible to bring

27 British Med Jour March 7 1903

that sentiment was immensely deepened Every place I visited implied two or three dinners—Medical, Chambers of Commerce and others At these addresses were made always expressing Anglo-American goodwill, to which I was expected to respond, but at the same time given carte-blanche as to the subject matter Further than that, they would like me to address them on some definite subject (non-medical), such as my impressions of America and how it compared with England My impressions of Continental Europe and how it compared with England and America as to ideals and philosophy of life How comes it that the British are the only successful colonists of history? India, its religion, philosophy and politics, and how these can be compatible with democracy, etc ? The striking feature of all these meetings was the whole-hearted warmth of the sentiment—Anglo-American goodwill

The Hearst Press and much of the other American Press do not represent the opinions or feelings of the American people on this issue

It is a great pity that the medical profession in the British Isles does not arrange post-graduate medical schools in harmony with the requirements of this practical people If we arranged our post-graduate instruction to be as practical as it could be made, then the Americans who flock to Berlin and Vienna would come to us Vienna has for a long time catered for the American He goes there because he gets more nearly what he wants than he does in the British Islands The impression left on me by my tour in America and Canada is that of a fine, stalwart, broadminded people

THE PROPHYLACTIC VALUE OF INOCULATION AGAINST INFLUENZA FROM THE EXPERIENCE OF AN EPIDEMIC AT KHULNA JAIL

By SARASI LAL SARKAR,
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THE following occurs in the introduction of the Medical Annual for 1921 —

"Statistics in reference to the value of prophylactic inoculation against influenza given by Sir William Leishman go to show that it was of great value when only one dose of the vaccine was given, and also that it greatly diminished the cases of pneumonia in those who were subsequently attacked The formula of the vaccine now employed in the Army, and also by the Ministry of Health, has been increased from 60 millions as regards the B influenza, with streptococci 80 millions and pneumococci 200 millions in 1 c c (article influenza)"

Sir W Leishman's observation regarding the subject can be summarised from his article published in the *Lancet*, 1920, 1, 366, to be as follows —

"Sir W Leishman summarises the results of inoculation in the Home commands in 1918-19 as follows —

	Strength	Ratio per 1,000		
		Incidence of attack	Incidence of pulmonary complications	Deaths.
Inoculated	15,624	14 1	1 6	0 12
Non-inoculated	43,520	47 3	13 3	2 25

"Nearly one-half of the inoculated received only the first dose of the vaccine, *i e*, one-third of the amount considered essential to effective protection It is probable, therefore, that if all had received the full dosage, the protective results would have been still more evident No bad effects were reported, and the reaction in the overwhelming majority were trivial or non-existent The formula of the vaccine now employed in the Army, and also by the Ministry of Health, contains B influenza 400 millions (instead of 60 millions as previously), streptococci 80 millions and pneumococci 200 millions in 1 c c"

With this introduction I give below my experience about the protective value of the influenza vaccine in the epidemic, *i e*, at Khulna jail, while I was superintendent of the jail.

I may mention here that I submitted my paper to Captain N N King, I M S, who was specially studying the subject. The whole of my paper has been very kindly summarised by him in the form given below in his own words In the conclusion of the summary, Captain N N King has justly remarked that the results are based upon a small and insufficient number of cases

However, I may note that in relying upon the logical conclusions arising out of the results based on this small figure we are agreeing with what was arrived at by Sir W Leishman from quite a large figure

The following is the summary of my paper by Captain N N King, I M S —

Influenza appeared on the 31st August, 1919, at a time when the jail was crowded with 256 prisoners, it spread rapidly, producing 40 cases in the first week, 20 in the second and 8 in the third, the last cases were reported on the 18th September, *i e*, the epidemic lasted 19 days and produced 68 cases On the 4th, 5th and 6th September, 60, 70 and 78 men, respectively, were inoculated with one dose of 1 c c standard influenza vaccine made at Kasauli (B Pfeiffer 60 millions, pneumococci 200 millions to the c c) By the 6th September, the whole jail population had

The general employment of this compound in surgery has been a slow and gradual process It also was borrowed from the mechanic arts and, while its present application seems very simple, nevertheless it has taken years to develop the technic Certainly its universal use has marked an important advance in the treatment of fractures The advantages of an accurate coaptative dressing in fractures of the limbs are so great that one who has once learned to handle plaster will certainly prefer it to padded splints of wood or tin and the badly-fitting manufactured splints of the same materials Plaster-of-Paris, however, is far from being an ideal material, and the general use of the *x*-ray has but added to its faults

THE X-RAY IN DETERMINING RESULTS

The Roentgen ray penetrates plaster-of-Paris with difficulty, and while in some cases it is possible to secure a satisfactory radiogram or make a good fluoroscopic examination, the method is far from being advantageous as a routine measure The benefits to be derived from the Roentgen ray, not only in the diagnosis of bone lesion but in the accurate reduction of bone fragments, can not be overestimated In oblique fractures, and where palpation is interfered with by thick muscle, the surgeon is only too glad to avail himself of this help, either by direct manipulation of the fractured limb before the ray, after the manner advocated by Bickham and others, or in checking his result after a permanent dressing has been applied.

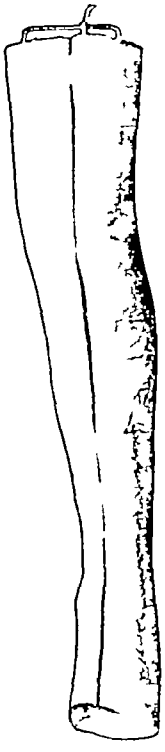


Figure 1.

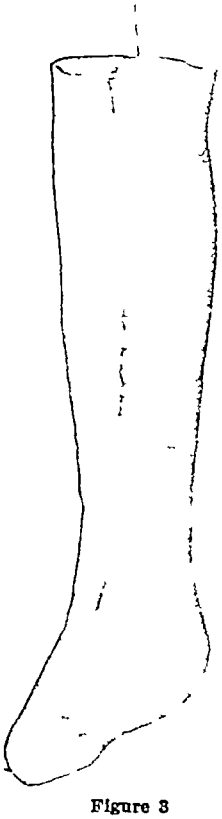


Figure 3

Fig 1.—Rigid magnesite splint for adult foot, leg and thigh. Weight, 2 pounds.

Fig 3.—Magnesite splint for adult foot and leg Weight, 1 pound.

The poor results obtained by those surgeons who rely on digital sense and measurements in the reduction of fractures are known to every radiographer I have several times been much chagrined at the evidence which a well-taken radiogram has given me in instances in which I believed I had achieved a brilliant result by digital manipulation While poor approximation may give good functional union in fractures of the middle third of the humerus, a fracture of the ulna and radius at the same point, with improper reduction, will generally result in a partial loss of function Careful reduction is not only necessary, but the maintenance of this reduction is most essential Hence a fluoroscopic examination after the cast has been applied is a source of great satisfaction, the surgeon being able to assure himself that slipping of the fragments has not taken place

In the search for a compound which would answer my purpose I conducted experiments with water-glass, starch, dextrin and the many substances which have been recommended in the past but which are now not usually employed I found them all unsatisfactory Plaster-of-Paris is far superior in that hardening consists in a definite chemical reaction, a crystalline salt being formed

PLASTER-OF PARIS

In order to appreciate the subject more fully it will be necessary to consider briefly the preparation of plaster-of-Paris In making this product gypsum is ground to a fine powder and then calcined in kilns The industry is carried on extensively in several Parisian suburbs, hence the name At a temperature of 80 C (176 F) gypsum ($CaSO_4 2H_2O$) begins to part with its combined water An increase of temperature causes desiccation to proceed with greater rapidity, and for manufacturing purposes the best results are obtained at a temperature of 110 to 121 5 C (230 to 250 F), desiccation being carried on until about three-fourths of the water has been expelled ($2CaSO_4H_2O$) If the temperature be raised to 249 8 C (480 F) the time of hardening of the plaster is greatly prolonged, and at a still higher temperature it loses all power of again absorbing water The setting of plaster-of-paris is due to its uniting again with water to form gypsum, which becomes a crystalline mass This setting can be facilitated by heat



Fig 2.—Elbow radiographed through heavy magnesite splint.



Fig 4.—Very strong magnesite splint for hand, forearm and elbow, made from 5½ yards of 3-inch bandage Weight, 12 ounces.

There is no doubt that the difficulties of the operation have been exaggerated in the past, but there are at least two excellent accounts of it in easily accessible standard works I refer to Meller's Ophthalmic Surgery, and Elliot's Tropical Ophthalmology The former gives a very clear and detailed description of the Vienna operation with the minute anatomy of the parts concerned The latter does not pretend to be an operative treatise, but gives numerous practical improvements based on a large experience, which the surgeon familiar with Meller's operation will have no difficulty in adopting Dr Greenwood's operation is very similar to that originated by Colonel Elliot in the Government Ophthalmic Hospital, Madras, and which is still practised with certain modifications introduced by Colonel Kirkpatrick These modifications, together with one or two points in technique which I consider helpful, will be touched upon below

In Dr Greenwood's article, it may be noted that he demarcates the anterior lip of the lachrymal fossa by placing the finger on the canthus and pressing on the lachrymal crest with the finger nail He incises over the curved line thus delineated I frequently use this method of demonstrating approximately the position and shape of the incision, but as I consider the most important step in the operation is to avoid the angular vein, I always make my incision external to the vein, no matter what the surface marking of the crest It is surprising in what a number of patients the angular vein is obvious at a glance Its position varies, but it is seldom so near the canthus that one has not 5 to 10 m m between the two, at the level of the internal tarsal ligament In making the infiltration (2 per cent novocaine in 1|10,000 adrenalin, approx), care is taken to insert the needle to the temporal side of the vein The vein is now obscured by the swelling due to the infiltration, this is dispersed by firm pressure against the bone over the site of the injection The parts having resumed their normal appearance, the position of the vein is kept in view The skin is now put evenly on the stretch with the canthus as centre, by a divergent drag with the fingers of the left hand This gets the vein out of the way and aids in making a clean section The short (2 c m) slightly curved incision is now made with the point of a very sharp small scalpel held like a pen but more vertically, with the blade cutting away from the operator as he sits at the patient's head A short sawing motion is imparted to the knife, insuring a clean incision through the delicate skin which is on the stretch The incision must be between the canthus and the angular vein and in the natural line of cleavage It may be within 5 m m of the canthus if necessary, that does not matter, the great point is not to wound the vein, and this goes a long way towards securing a bloodless operation. The incision, at present in vogue here, differs somewhat from Colonel Elliot's, in that its upper extremity is carried slightly above the ligament The incision is only carried through skin and subcutaneous tissues, so that when the Meller's retractor is inserted a quadrilateral field is exposed with the internal tarsal ligament white and prominent crossing its upper third, whilst the oblique fibres of the orbicularis occupy the lower two-thirds

Here our technique differs from Dr Greenwood's, in that we do not cut down directly on the periosteum immediately to the nasal side of the crest, except in difficult cases (*e g*, extensive suppuration, discharging sinus, periostitis, erratic hæmorrhage) In such cases the crest is an invaluable guide as he points out, and enables one to finish the operation by touch, if necessary We, on the other hand, aim at Meller's technique, splitting the orbicularis and then the fascia which, stretching between the anterior and posterior crests, ensheaths the sac externally This is carried out by inserting the back of the point of the knife between the orbicularis fibres just below the internal tarsal ligament, and pushing downwards in the line of the fibres The fascia immediately appears in the gap, and it is treated similarly, being split by the knife point

The sac is now seen lying inside the fascial sheath, and is detached from its bed by means of an Elliot's dissector, the ideal instrument for the purpose The edge of the dissector is inserted into the gap, and by moving it up and down, the outer side of the sac is first freed The movement is continued posteriorly and downwards and then the instrument is carried across the front of the sac and separation is effected internally and downwards deep into the canal Lastly, using it like an egg spoon, the dome is separated At this stage, as Dr Greenwood points out, one may have to use the scissors In connection with this blunt dissection, he lays stress on an important point namely, the fragile and frequently perforated nature of the lachrymal bone, this only needs mention, there must be delicacy of manipulation all through

With regard to dividing the internal tarsal ligament, it is as often cut as not Colonel Elliot did not sever it as a rule Dr Greenwood points out that it makes very little difference, and as this seems to be the case, I sever it in those cases where it is helpful The severance should be at its attachment to the bone All that remains after thorough separation is to seize the sac, divide the canaliculi with scissors, push the blades down the canal and cut off the duct as low as possible Cauterisation of the canal has now been given up, our procedure at present is

maintain its shape, and the final setting, which marks the end of the reaction I have found the final setting of magnesium oxichlorid to be a little more rapid than that of plaster-of-Paris My observations have been made on blocks of materials of equal volumes and under the same conditions It is in its rapid superficial setting that plaster-of-Paris greatly excels I have felt that if as rapid a superficial setting could be obtained with the magnesium compound we would have an ideal material, and I have devoted much time in endeavoring to obtain such a result My labors have thus far been futile Experiments with an electric furnace have been conducted, varying degrees of temperature in the calcination of the magnesite being employed but without success Combinations with other ingredients have been tried, but where a quick superficial setting was obtainable it was at a great loss of tensile strength

A fairly rapid superficial setting may be obtained by the use of heat, but when it is imperative to secure a quick setting, as in some fractures, I prefer to cover my magnesite dressing with a muslin bandage and then apply over this a thin layer of rapidly-setting plaster-of-Paris, on the next day this superficial plaster and the muslin bandages are torn off, leaving a hard, permanent cast The magnesium oxichlorid reaction has been regarded, commercially, as a very tricky one Bad results generally are due to low degrees of temperature and the experimenter will soon find that he gets much better results at body heat than at temperatures below that point

ADVANTAGES

It remains but to sum up the advantages of this magnesite dressing over that of plaster-of-Paris when used alone

Penetrability—The Roentgen ray penetrability as compared with plaster-of-Paris has been estimated by taking equal thicknesses of the set plasters, placing them side by side and radiographing them As near as can be judged by color, the penetrability of the magnesium compound is about twice as great as that of the calcium As we can procure the same rigidity with casts of from one-half to one-third the thickness, we may say that the penetrability of the magnesium preparation is from four to six times that of plaster-of-Paris Not only in fracture work is this of great advantage, but also in the treatment of bone tuberculosis In this condition, progress may be watched by radiographing through the dressing, thus avoiding disturbing the healing parts by removal of the splint

Hardness—We have no means of estimating hardness accurately, deductions can only be made by a careful comparison of the magnesite and plaster-of-Paris dressings In equal thicknesses the magnesite splint is much harder and firmer, and it is only necessary to repeat that magnesium oxichlorid is used in constructing flooring to emphasize this point By employing a knife with a file edge I find no difficulty in cutting it. As an aid in cutting, hydrochloric acid may be used, but I have not found this often necessary

Tenacity—This compound is extremely tenacious, as is indicated by Sorel's statement, that it may be mixed with twenty times its weight of inert substance without losing its setting qualities In thin layers it is also quite elastic which is certainly a great advantage It is not brittle and does not chip and break along its edges as does hard plaster

Weight—Volume for volume, the magnesium compound weights 1 3 to 1 of set plaster-of-Paris, yet the same strength can be obtained in so much thinner layers that my casts are much lighter In Colles' fracture in adults I have used magnesite splints, extending from the fingers to the elbow, which weighed but three ounces This great decrease in weight over the old method is much to the advantage of the patient.

Moisture—Plaster-of-Paris casts break down and become soggy when exposed to moisture, as about a fenestrum where an open wound is being treated, for plaster is somewhat soluble in water Moisture has apparently no effect on the magnesium compound

In conclusion, I wish to express my thanks to Dr Harry M Sherman, head of my department in the university, for many suggestions derived from his long experience in handling plaster, also to the members of the faculty of the College of Chemistry at Berkeley who have given help in the chemical questions involved

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THE VALUE OF AN ABSOLUTELY VEGETARIAN DIET IN PSORIASIS *

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Although psoriasis is one of the most clearly defined and well recognized of all diseases of the skin, and has been the subject of much study, clinically and microscopically, we are still in the dark as to its true nature and etiology, moreover, good observers are by no means all agreed as to whether it is a local disease of the skin or one of internal origin Certain it is that no definite cause has yet been established

The appearance and character of the individual lesions have time and again suggested a parasitic origin, but as yet no micro-organism has been demonstrated by which the eruption can be produced artificially, nor, on the other hand, has any one constitutional state been shown to be always productive of the eruption Certain observers have, therefore, characterized it as a local affection of the skin itself, a misbehavior of its cellular elements, even as epithelioma is recognized as such

But there are many facts and features of the disease which point to its not being a purely local disease of the skin, but show that it is due to some underlying constitutional state or condition which at one time or another favors the development of the lesions on the skin Not to lay too much stress on the clinical observations of many in regard to the connection of psoriasis with rheumatism and gout, hereditary or acquired, or the appearance of the eruption after vaccination, the exanthemata, debilitating illnesses, prolonged lactation, etc, there are some peculiar features which can not be ignored Thus, the intermittent character of the eruption, often without treatment, shows some change in the individual which, even on the theory of a microbic origin of the separate lesions, causes the omnipresent microorganisms to have effect Also the well-known proclivity of the eruption to appear at certain seasons of the year, at which we know that the diet and mode of life vary greatly, points to a systemic change or modification of the metabolic processes favoring the eruption

One of the most striking facts in regard to the production of the eruption of psoriasis is that relating to

* Read before the Sixth International Dermatological Congress, New York Sept. 9 1907

It is interesting to note that, out of the seven cases only three showed a hæmorrhagic tendency, while the Japanese observers particularly mention hæmorrhagic diathesis as a special feature of the icteric stage On the other hand, Pagniez, in 1919, mentioned in the Annales de Medicine that the hæmorrhagic form is not so prevalent in France as in Japan, and suggests the term "Spirochætose icterogene" for the disease instead of "Spirochætose icterohæmorrhagique" It is therefore evident that the hæmorrhagic tendency is not a constant feature of the disease It was present in only twenty-two of Pagniez's forty-three cases in France

In all the seven cases which came under my observation jaundice was a well-marked symptom However, Stokes and Ryle, who made careful observations on the disease as it occurred in the army in Flanders, have described a mild form in which even jaundice was absent They have been able to produce the typical severe form of the disease in guinea-pigs by injecting them with the blood of such cases In twenty-six per cent of their cases jaundice was absent

The disease has received special attention during recent years, because it has been frequently observed in the armies In the last German war, cases of epidemic jaundice were reported in the British, French, Italian, Servian and German armies Outbreaks of the disease occurred among the troops in Gallipoli, Salonika and Egypt Epidemic jaundice was noted in India for the first time in 1849 No cases have been reported since then up to now

I shall now give a brief description of the cases above referred to

CASE No 1 (D N D)

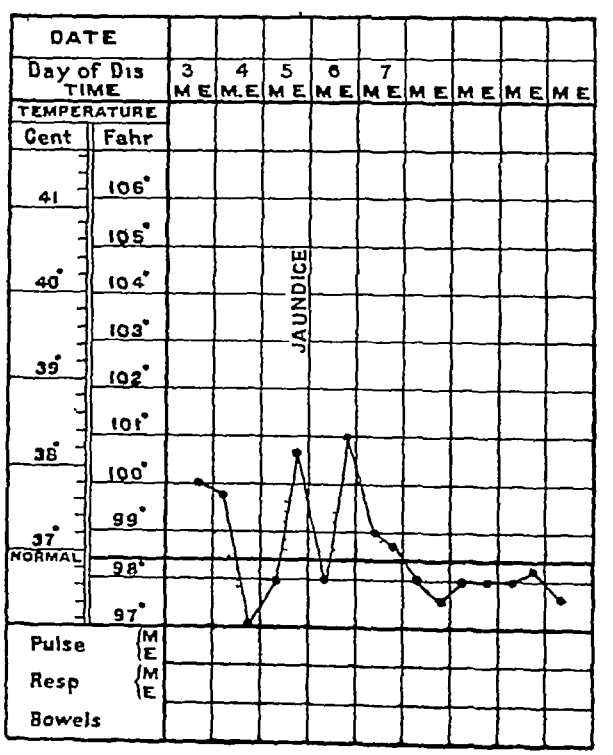
This patient came to me on the 2nd August, complaining of pain in the body and loss of appetite and feverishness for five days Next day, fever rose to 102° F There was nausea and the loss of appetite continued The fever also continued, with slight remissions in the morning, for the next four days and then gradually subsided Jaundice appeared on the third day of the illness The liver was slightly enlarged and tender and the urine contained bile and albumen. The patient left my treatment on the 17th August, still complaining of weakness, and his conjunctivæ saffron yellow

CASE No 2 (N B V)

This patient was a neighbour of Case No 1, living in an adjoining room. He came up on the 19th August with pain in body, loss of appetite and cramp-like pains in the calves He gave a history that he had been suffering from loss of appetite and discomfort in the abdomen and slight pain in the body for about eight days The next day, fever rose to 102° F On the third day, *i e*, on the 21st August, the temperature rose to 104° F, and he complained of pain in the abdomen and flatulence On the 22nd, his condition was the same On the 23rd, the patient began to get severe vomiting and headache The conjunctivæ showed a slight tinge of yellowness and the liver was found enlarged and tender But the temperature remitted by a degree to 103° F On the 24th, the vomiting subsided, but the fever remained the same On the 25th, temperature was 102° F, the jaundice was deep, but from this day the fever began to subside. On the 27th, the urine showed spirochætes in one out of a number of smears made from the centrifugalised deposit On the 29th, there was a slight rise again, but from the next day convalescence set in From the 30th August to 6th September, the only complaint the patient had was weakness and jaundice From the 7th September, the patient got a sort of remittent fever, the highest temperature being 102° F This secondary fever lasted only for four days

CASE No 3 (R B C)

Came up for treatment on the 17th August, with pain in the body, chilliness and feverishness During the next three days, the aching of the body increased and there was loss of appetite. On the 23rd, the patient began to get vomiting and the temperature rose to 103° F On the 24th August, *i e*, on the 7th day of the illness, jaundice appeared and the liver was found enlarged and tender On the 25th, the patient brought up some blood in the vomit On the 26th and 27th, the temperature remained at 102° F, with morning remissions of a couple of degrees On the 30th, the temperature was 100° F, but the next day, again, there was a rise of one degree more On the 1st September, the temperature never rose above 99° F, and from the 2nd, convalescence set in, marked by weakness and prostration



umetric analyses I have found in the urine of untreated psoriatic patients a greater acidity (two, three or even four times the normal), a higher specific gravity (1 030 to 1 040 being not uncommon), and increased urea (even to double the normal amount), evidences of faulty nitrogenous metabolism, or, rather, of an excessive intake of highly nitrogenized foods, as yet we know very little as to the effect of faulty metabolism of carbonaceous elements on the urine

Knowing the effects attributed to faulty nitrogenous metabolism on other structures of the body, it is natural to suppose that prolonged errors of this nature would produce some injurious effect on the skin, and working on this hypothesis for many years I am convinced by clinical observation that psoriasis has its foundation in errors in regard to the passage of nitrogenous elements into and out of the body How far back in the system this erroneous nitrogenous metabolism extends can not be stated, for the urine is only the index as to how more *occult processes are carried out* Whether Haig's view as to the retention of uric acid in the system is correct, or whether by imperfect oxidation in the tissues of the body other irritating compounds of nitrogen are formed need not particularly concern us, the main fact to recognize is that, probably from improper diet and other causes, imperfect anabolism and catabolism of the proteids take place, and in some way either excite the skin to wrong action or render it susceptible to other causes of disease

It would lead us still further away from the practical purpose of this paper if we attempted at all to trace the causes or methods by which this faulty nitrogenous metabolism takes place, for, indeed, a good deal of it is involved in mystery We know that the life processes of the body are carried on by oxidation, and it is quite understandable how, by a lowering of the oxygenating powers of the system, imperfect oxidation of the proteid molecules occurs While this process of oxidation is going *on all the time in every part of the organism* it is, of course, the blood which is the active agent, both in furnishing the requisite oxygen, in various combinations, and in carrying away in turn the more or less imperfectly oxydized products of catabolism It must be remembered, too, that it is from the arterial blood current that the kidneys seize such waste products as they may be able to handle It is recognized also that this blood current represents the results of the final efforts of many vital organs, each contributing its quota of result in the interchange of external elements with vital tissues, and also the removal of effete or waste primary elements, in various combinations, after they have accomplished their purpose in the organism

OTHER TREATMENT NECESSARY

While I am strongly advocating an absolutely vegetarian diet in psoriasis, therefore, I wish emphatically to declare that this is only one element in the treatment of the disease—although perhaps the most important one In order to obtain the best results there is constant need of careful medical supervision in order to secure the proper working of the economy in all directions, and internal and external medication are called for as necessity arises

I know that with all that has been said in regard to the absolute avoidance of meat, many are ready to reply that some years ago exactly the opposite plan of treatment was advocated namely, an exclusive or almost exclusive *meat diet in psoriasis*, this fact has been so frequently alluded to in text-books and current literature that it is necessary to devote a few words to it

EXCLUSIVE MEAT DIET IN PSORIASIS

In 1867 Gustav Passavant of Frankfort Germany, in an open letter to Prof F V Hebra,[7] reported his own case of psoriasis of twenty-five years standing After trying for many years all known external and internal treatment, with but temporary benefit, he states that he was soon free of psoriasis and from an accompanying catarrh, after entering on an almost absolute meat diet, including soups, pork, fats, cod liver oil, milk, and bacon, and practically no vegetables or bread He advised against any amount of vegetables, wine, beer, coffee and tea or spices He cites one case of squamous eczema also relieved by this treatment

There are a number of points in connection with this brief report which quite invalidate any importance which might be attached to it First, Dr Passavant does not *mention if possibly he used any treatment, external or* internal, in connection with the diet, then he does not state if the improvement in his condition lasted any length of time or if he had any return to the eruption, either under the diet or without it He refers also to only one other case, and that of eczema, which was benefited by this plan of treatment

Finally, Hebra,[8] to whom Dr Passavant addressed his open letter, ridiculed the claim made, some years after its publication, and, as far as I can find, there has been no subsequent corroboration in literature of the correctness of the claims of Passavant that psoriasis can be cured by a meat diet Surely if there were any truth in it some proof would be forthcoming in the forty years which have elapsed since its publication On the other hand, there are abundant, though brief, allusions in literature in regard to the injurious effect of excessive meat-eating in psoriasis

More attention has been given to this matter than is *perhaps warranted, but as the statement of Passavant is* so often called up whenever the subject of diet in psoriasis is referred to, it is thought worth while to analyze the subject and refute the error, once for all My personal experience in regard to the effect of diet on psoriasis extends over more than twenty years, as has been already stated

EXPERIENCE WITH VEGETARIAN TREATMENT

In analyzing the notes of 565 cases of psoriasis observed in private practice I find that about one-half of the cases were seen in consultation, or for but a short period, and, of course, many others only at intervals But of those cases which were observed long and frequently enough to understand their true condition and observe the results of treatment over a long period, I find that there were forty in whom a more or less vegetarian diet was observed, and from a dozen to twenty patients who carried it out strictly, and from whom conclusions can be drawn The limits of this paper do not admit of the presentation of the histories of individual cases

During the earlier years the restriction was less severe and related mainly to the abstinence from beef and mutton, and even these patients noticed a marked change in the character and severity of the eruption, and often attributed a relapse to indulgence in the prohibited articles

7 Archiv f Hellkunde 1867 p 251
8 *Lehrb d. Hautkrankheit 1874 I p 352*

by alimentary canal Guinea-pigs are highly susceptible to this organism, but can be immunised As regards the treatment of the disease, Inada and his co-workers have recommended the intravenous injections of serum obtained from convalescent patients and from actively immunised horses Salvarsan, neo-salvarsan and their substitutes have also proved useful

The symptoms and signs described by Dr M J Parmanand are typical of this disease which is not often fatal I have seen the spirochætes obtained by him from Cases Nos 2 and 4, morphologically they are identical with those described by the Japanese workers From the clinical progress of the cases and the successful demonstration by Dr Parmanand of the special spirochete, it seems certain that Weil's disease is at present prevalent in Bombay"

In conclusion, I have to thank Dr R N Parmanand, the Medical Officer in charge of the Adams-Wylie Hospital, for putting the clinical material at my disposal, to Professor Turkhud, for valuable assistance in the preparation of this paper, and to Major B Higham, Dean, Grant Medical College, for permission to have the micro-photographs taken in the photographic department of the college

dyspepsia over 20 years 3 Chronic heart disease for over 10 years

Present illness—Has been suffering from whitlow for a month It has been discharging pus and blood all this time Patient was of opinion that the whitlow was sapping her strength and her relatives also noticed her progressively wasting and growing pale since the attack of this whitlow There was no fever up to the day before (17th November, 1920), when from 6 P M she started fever with rigor The temperature kept on rising from that time till I saw her, when it was 106·8 The unconsciousness had set in 4 hours before I saw her

Physical examination—The whitlow On the palmar surface of the distal phalanx of the right thumb was a linear incision ½ inch long in the middle, its parted edges, on squeezing, let out sufficient pus to enable me to inoculate an agar slant This incision was made by a female barber There was no involvement of the lymphatics or lymph glands in relation to the wound

General condition of the patient—Pulse 142, soft and compressible at the wrist Temperature 106·8, resp 23 Ocular conjunctivæ congested No retraction of head, no stiffness of the neck Eyes closed

Table showing an analysis of symptoms

Case	Jaundice	Conjunctival congestion	Vomiting	Limb pain	Hæmoptysis	Epistaxis	Hæmatemesis	Herpes	Albuminuria	Acetone in urine	Blood cultures	Parasites in films (Leishman's)
1 D N D	+	+	+	+	—	—	—	—	+	—	—	—
2 N B V	+	+	+	+	—	—	—	—	+	—	—	—
3 R B C	+	+	+	+	+	—	—	—	+	—	—	—
4 L M	+	+ +	—	+	—	—	—	—	+	—	—	—
5 M S	+	—	+	+	—	—	—	—	+	—	—	—
6 M H	+	+	+	+	—	—	—	—	+	+	—	—
7 ?	+	+	+	+	—	—	—	—	+	—	—	—
8 Y S	+	+	+	+	—	—	—	—	+	—	—	—
9 B Y	+	—	—	+	—	—	—	—	+	—	—	—
10 F A	+	+	+	+	—	+	—	—	+	—	—	—
11 S K K.	+	—	+	+	—	—	—	—	+	—	—	—

A Mirror of Hospital Practice.

REPORT OF A CASE OF FUNGATING ENDOCARDITIS (STREPTOCOCCAL) LEADING TO RUPTURE OF AN AORTIC VALVE, SUCCESSFULLY TREATED WITH STOCK SERUM AND AUTOVACCINE

By UMA PRASANNA BASU, M.B (Cal.), M.R.C.P

On 18th November, 1920, between 7 and 8 P M, I visited a patient at Baghbazaar, reported to be suffering from high fever The patient was a Hindu widow, aged 40, unconscious and with high fever

Previous history—1 Rheumatic fever at the age of 18, duration 6 weeks 2 Asthenic

Heart—The impulse was in the 7th interspace about 1¾ inches outside the nipple line There was no thrill nor thud over the præcordium The apex beat was diffuse and could be located with difficulty Area of deep cardiac impairment extended right down to the 7th space and reached on the left almost the mid-axillary line A loud systolic murmur was heard over the aortic cartilage, which totally replaced the first sound and was conducted up the carotids Over the same area was heard another murmur, which replaced the second sound and occupied almost the whole of the diastole. It was a loud long continued murmur, unlike the early diastolic *bruit* of aortic regurgitation, it continued down the sternum In short, instead of the bellows sound, I thought I heard a souffle over the aortic area Over the apex and around a wide area, a systolic and a

in this class, but there is generally headache, bronchitis, some reddening and coating of the tongue The patient is willing to keep his bed The appetite remains good, and abdominal symptoms are absent.

Third, a fever ranging from normal temperature to 100 degrees F or a little above and continuing for two weeks or more In this class of fevers we have all the usual symptoms of the typical typhoid fever There is low muttering delirium, sometimes wild mania, a red, pointed tongue, tympanites, and retention of urine

After the close of defervescence there is nearly always a second rise of the temperature lasting a variable length of time and corresponding to the second rise or "febris carnis" in the more typical cases

These three groups are fairly representative of this interesting class of fevers As stated in the beginning the second group of these fevers is by far the most important It occurs most frequently, it gives the greatest difficulty in differentiating it from malaria fever It is nearly always accompanied with bronchitis, sometimes severe One lobe of the lung may be dull on percussion, and suppressed breathing may be noted on auscultation The bronchitis disappears early with free mucopurulent expectoration Where malaria is not prevalent it is easy to mistake these cases for acute bronchitis or sporadic influenza and no doubt this is done in many instances where typhoid fever is not epidemic

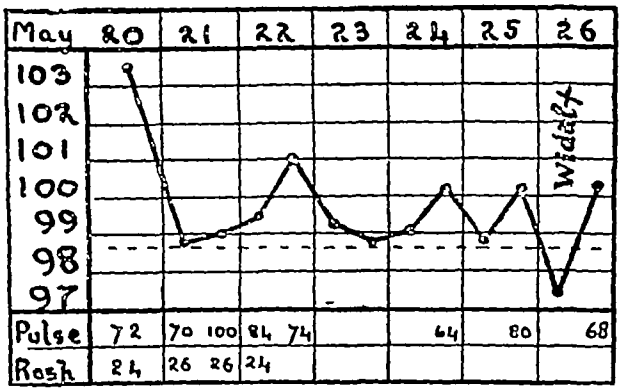


Fig 1—Temperature chart of Case 2 Class I showing curve during first week of illness during the rest of the illness the temperature was practically afebrile

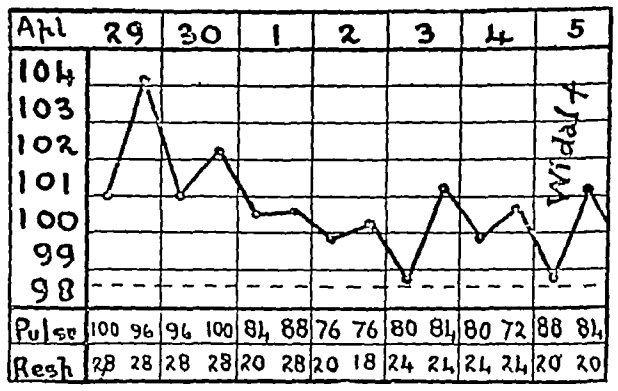


Fig 2—Temperature chart of Case 3 Class II showing curve during first week of illness after this time the temperature was practically afebrile

I am fully convinced that these fevers are typhoid fever Because their numbers always increase as the number of the typical typhoid fevers increase, they occur in the same houses and same surroundings from which we meet or receive the typical cases, they frequently relapse, and the relapse may be, and often is, more severe than the initial attack, they give about the same proportion of positive Widal reactions as the typical cases as I shall show later And, finally, I have had occasion to see two postmortem examinations here on this class of cases which showed beyond any further question that they are typhoid fever—one died in relapse,[1] one from perforation [2]

While the fevers of this class are very characteristic, they can not be placed in a category to themselves As already remarked they seem to hinge on the typical forms as is shown by the severe relapses that sometimes occur And it is my opinion from a long observation in the southern United States and here that they are often the forerunners of the severer forms rather than the result of a decrease in the virulence of the specific agent

1 Records Pathol Lab Ancon Hospital 1906
2 Records Pathol Lab Ancon Hospital 1907

The morphologic changes that take place in the ileum and other structures in the most of such cases as these, we can assume only by inference That we have merely a slight reaction going on in Peyer's patches and the solitary follicles, with slight swelling of the mesenteric lymph nodes which early tends toward resolution, is reasonable to suppose

It is not at all necessary that all cases should go on to necrosis and sloughing, for typhoid fever like any other specific disease, depends for the severity of its symptoms on the amount of the infection present, the virulence of the infectious agent and the resistance of the host. Hence we may and do have this fever varying in its symptoms between wide extremes, from merely fever with no symptoms up to subsultus tendinum, coma vigil, simulation of cerebrospinal meningitis to those dying within a few days with the overwhelming toxemia, with merely a slight hyperplasia in the intestinal tract to account for the onslaught [2]

But in spite of these reasonable conclusions, when it comes to diagnosing these mild, irregular fevers as typhoid fever, it takes courage to do it in the face of the commonly-accepted belief of this disease, and we all doubt and hesitate even when all the evidence is in our favor

This tendency to doubt this tendency to hesitate or even not to diagnose at all, does no harm in most cases so far as the patient himself is concerned, but with reference to the welfare of the community it becomes indeed a serious matter

In these irregular cases every opportunity is present for the spread of the disease They are usually unrecognized as typhoid fever and no effort is made toward disinfecting the patients excreta, they are not reported to the sanitarian, and nothing is done toward general sanitation about the patient's surroundings Contamination occurs and there is then but one result—an epidemic Thus these cases become the root from which this disease springs perennial and are almost solely responsible for its continuance

In April, 1905, we had the first known case of typhoid fever in the Canal Zone since the American occupation This case appeared among some recruits in the United States Marine Corps at Camp Elliott, Empire From there it spread to some contiguous labor camps, Lirio and Gold Hill, thence to the towns of Empire Las Cascadas and Bas Obispo in these instances following the course of the watershed In the meantime sporadic cases began to come from towns on the Panama side of the Culebra divide, where it was not possible to spread

whole case a fungating endocarditis Blood culture was not done

Expert examination of the slide—negative M P , this was clinically confirmed by want of effect on the temperature by the quinine injection (*vide* temperature chart) 30 c c of anti-streptococcic serum polyvalent (P D & Co) was injected hypodermically Temperature began to fall 3 hours after the injection

20-11-1920—At 8 A M , temperature 100 6, at 6 P M another 10 c c of the same serum injected hypodermically

21-11-1920—At 8 A M , *temperature normal* Stimulant treatment was continued all this time

22-11-1920—Report from whitlow pus identified as streptococcus pyogenes An autovaccine, prepared from it, was injected, dose 5 millions

23-11-1920—The pain, which was first complained of by the patient on the 21st evening on the plantar surface of the left heel, became very acute She ran a little temperature of 101° An abcess was suspected

24-11-1920—Abscess opened, agar slant inoculated with the pus obtained from it Ten millions of streptococci (auto) injected 8 P M temperature normal

26-11-1920—A third dose of autovaccine (20 millions streptococci) injected

27-11-1920—Heel wound dried up

29-11-1920—First dose of fresh autovaccine from the heel pus was injected (40 millions streptococci) From this time onwards another 2 doses of the second autovaccine were injected of the strength of 70 and 100 millions and at gradually increased intervals (*vide* temperature chart), without any untoward re-action Pus from the heel abscess was identified to be the same streptococcus pyogenes

The whitlow was completely cured by this time and the pain and discomfort over the præcordium gradually disappeared on a prolonged rest and a combined course of iron strychnine and phosphorus The souffle heard over the aortic region persisted all this time and continued after her complete recovery, although it changed its character and assumed a rough quality

Conclusions The Diagnosis—In spite of the absence of a bacteriological examination of the blood and an autopsy to corroborate it, the diagnosis of fungating endocarditis was made because—

(*i*) Progressive anæmia in chronic heart case (no matter whether there is fever or no fever) following a localised chronic septic wound

(*ii*) The three embolic processes (*a*) the transient unconsciousness with very high fever, (*b*) inflammation of the mamma, (*c*) abscess of the foot

(*iii*) Drop of temperature by crisis on the injection of a big dose of anti-streptococcic serum polyvalent

(*iv*) The maintenance of the normal temperature curve after an initial fall on a combined course of treatment by antiserum and autovaccine

(*v*) Absence of M P in the blood and want of effect on the system by the quinie injection, and finally

(*vi*) The culture of streptococcus pyogenes *twice* from the whitlow pus and pus from foot abscess There is no necessity for deploring that blood culture was not made, for it is remarkable how often blood cultures are negative in these cases, *even when the blood is obtained during a period of high pyrexia and leucocytosis is rather the exception* than the rule.

The diagnosis of rupture of a cusp of the aortic valves was made on account of the following considerations —

(*i*) Patient's history—sense of uneasiness over the præcordium rapidly following a severe strain on the part of the patient which very soon developed into a sensation, "heart beating violently against the chest" to use the patient's expression, and was in turn followed by "choking sensation," leading finally into unconsciousness

(*ii*) The presence of that unusual sound—the souffle over the aortic area

(*iii*) The persistence of this sound after recovery with change of character (*Vide* article on Malignant Endocarditis, by Vaquez, the leading cardiologist of Paris, attached to *Hopital De la Pitié*, which appeared in the Archives des maladies du Cœur, August 1918)

FRACTURE OF THE ATLAS AND AXIS VERTEBRÆ

By MAJOR E W C BRADFIELD, M S , I M S.,
Madras, S W

THOUGH a number of cases of fracture of the upper two cervical vertebræ, in which the injury has not been followed by a fatal result, have been published, the occurrence is sufficiently rare to be worthy of record

My colleague, Dr Guruswamy, brought to my notice a Hindu boy, aged 10, who had been admitted to his wards in the General Hospital, Madras, suffering from fever, probably influenza, and who was also suffering from rigidity of the neck The history obtained was that two months before admission the patient fell into a big well in which there was very little water He fell on his side and remained unconscious for a short time He had severe pain for ten days after the accident, and his neck has since remained stiff He was very persistent that he had come to hospital for treatment of his fever and that the neck trouble was of no account

The patient, who is a healthy looking boy, holds his neck stiffly, with his head slightly turned to the right He walks with the head and neck rigid, and when asked to look round, does so by moving his shoulders

Only very slight lateral movement of the head, and that to the right, is possible, while flexion and

CASE 7.—*History*.—W. I., Barbadian, aged 26, on the Isthmus six months. Present illness began seven days before admission with fever and headache. Physical examination negative. Blood positive for malaria. Abdomen tympanitic, retention of urine. Patient in stupor with muttering delirium, unable to answer questions. Widal reaction positive on the second, third and fifth days, respectively, after admission. Twenty-six days after admission sudden pain in the abdomen with sharp rise in temperature. Operation for perforation showed volvulus. Relapse followed. Throughout the course of the disease the temperature was practically afebrile, except when volvulus occurred.

On analyzing 200 cases we note 64 atypical cases or 32 per cent. of the total. The deaths were 24, or 12 per cent. Of the complications there was intestinal hemorrhage in 3, perforation in 3, phlebitis in 3, gangrene from phlebitis in 1, acute suppurative endarteritis (aneurism) of common iliac artery in 1, malarial parasites 8 per cent.

The Widal reaction was positive in 58 per cent., negative suspicious in 8 per cent. and negative in 31 per cent.

In 27 cases the Widal test was requested one time, in 12 cases the Widal was requested twice, in 19 cases no Widal tests were requested. Of the 64 atypical cases Widal reaction was positive in 53 per cent., negative suspicious in 10 per cent. and negative in 36 per cent. In 11 cases no Widal was requested.

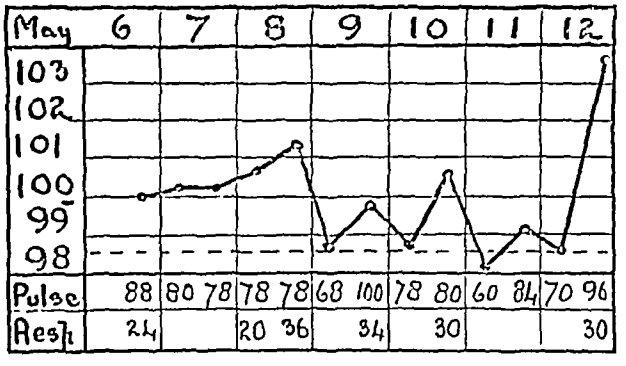


Fig. 4.—Temperature chart of Case 5, Class II, showing curve from time of admission until death.

It is of special interest to note the striking ratio of positive Widal reactions in these atypical cases to those in the whole series.

This at first glance is apparently a low percentage of positive Widal reactions, but I am sure this is as high as can be expected in average institutional work and much higher than need be expected by the general practitioner. There are so many undetermined factors in the phenomenon of Widal's test that the physician need not hesitate to make a diagnosis in the absence of a positive when the symptoms of the disease are present.

To illustrate. Five severe clinical cases of typhoid fever in which blood cultures have been made and followed up by Widal's in our usual way, give results as follows: 3 cases showed *Bacillus typhosus* in pure culture, 2 cases showed *B. paracolon* in pure culture.

The Widal tests were: Case 1, *B. typhosus*, 2 Widal tests made, 2 positive. Case 2, *B. typhosus*, 3 tests made, 1 negative, 1 positive, 1 negative. Case 3, *B. typhosus*, 9 tests made, 1 negative, 1 positive and 7 negative. Case 4, *B. paracolon*, 10 tests made, 1 negative, 2 positive and 7 negative. Case 5, *B. paracolon*, 10 tests made, all negative. These negatives and positives are in the order as named here.

Hence, we see how easily a slight delay or even a change in date might have modified the entire results.

MALARIA

It is now necessary to make a brief review of malarial fever. The quartan and tertian need not be considered here, as they have no bearing on the diagnosis of typhoid fever. I shall then consider only the quotidian or remittent form. We use the form "estivo-autumnal" here and sometimes the simple "malaria fever." I shall speak of it in what follows as "malaria fever."

Malaria fever is one of the most widely known of all diseases and perhaps is the most common disease met with, and paradoxically, it is apparently the least understood. The symptoms attributed to malaria fever are as varied as the idiosyncrasies of the observers. There is only one definite demand made of it, and that is that it shall have a reasonably short duration.

We have been slowly learning malaria since Laveran's discovery of its parasite, and as our knowledge increases we are constantly limiting it within narrower and narrower bounds.

We have found here that no disease is free from its complications, except such diseases as have a high leucocytosis and it is frequently present in the earlier stages of this class of diseases. We have found also that any affection more or less trivial itself, may complicate malaria and therefore modify its normal symptoms and course, in any degree in proportion to the gravity of the complication. These facts are perhaps not sufficiently well known, and observers when finding the parasites present in the blood have been content to assume that all symptoms present were caused by the malaria organisms. Thus it is that this disease has given the impression of such an infinite variety.

The fact is malaria fever is extremely definite in its febrile course. Its fever is characteristic, and to a close observer it is a striking phenomenon, its daily remissions, its daily exacerbations, within a fairly definite time, and its symptoms also vary with its fever and in like proportion.

And the reason. The cause of malaria fever, unlike the cause of typhoid fever, produces no organic lesions and all its clinical symptoms must depend on certain stages of the developmental cycle of its parasite. As is well known, the organisms pass through this cycle in a fairly definite time, it must follow that the clinical manifestations correspond to this phenomenon. The amount of the infection or the gravity of the same seems to in no wise cause it to vary from this general law.

I begin the next step in this paper with much trepidation. I am fully mindful of the enormous weight of the authorities that are against what I shall further have to say. Laveran,[3] Manson,[4] Thayer[5] and many others believe and teach that if estivo-autumnal malaria fever be long neglected or indifferently treated the parasites will develop in such rapid succession as to make the fever a continued one. It is as reasonable to expect the tertian or quartan to do the same thing under similar circumstances, but no one claims more in a tertian or quartan than a doubling. Why then should we expect an estivo-autumnal to vary its phenomenon to any greater degree?

The charts I have seen to illustrate this hypothesis will not bear very close analysis. They have nothing

3 Encyclopedie Scientifique des aide Memoire du Paludisme.
4 Tropical Diseases, 1905.
5 Lectures on the Malaria Fevers, 1897.

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INTRAVENOUS. **GALYL** IS THE SAFEST OF ALL ARSENICAL COMPOUNDS IN **SYPHILIS** INTRAMUSCULAR

(*Vide* Presidential Address, British Pharmaceutical Congress, 10th July, 1918.)

days to full doses of quinin and shows no physical signs or demonstrable bacteriologic cause other than malaria parasites, it is perfectly safe to assume it to be typhoid fever

Subsequently such a fever may prove itself to be tuberculosis, early liver abscess (in the tropics) or a febrile syphilis, etc. But such a contingency will be rare except for miliary tuberculosis—I have made this mistake five times in 205 cases. If we do err, however, our error will be on the side of safety both for the patient and for the community as well.

SUMMARY

These irregular fevers are typhoid fever.

Their chief interest and importance is from a sanitary point of view. They are beyond doubt the most dangerous of all forms of typhoid fever as spreaders of the disease.

Their diagnosis is difficult because of our erroneous ideas of what symptoms we expect in order to conclude a clinical diagnosis. The word "typhoid" suggests to our minds a certain state or condition—which any disease may show if it continues a sufficient length of time—and this is one of the chief causes of our error in diagnosing typhoid fever.

Early diagnosis and prompt reports are our only safe method of preventing this disease. We can not wait for classical symptoms of typhoid fever, nor on the long and tedious confirmation by Widal test.

On account of the widespread prevalence of typhoid fever, therefore, any continued fever, no matter how mild or irregular its course, which has no physical findings for its cause or which shows no demonstrable bacteriologic findings by the ordinary methods, should be diagnosed as typhoid fever until time proves it to be otherwise.

These conclusions are not based alone on the few facts cited in this paper, but in addition to these on an experience of three years in this institution, where the admissions have already reached into the thirty thousands, where in every medical case the microscope begins the diagnosis and is brought to bear from time to time as the case may indicate, and where, lastly, when the patient has finished with all earthly things, the diagnosis is concluded on the postmortem table and in the pathologic laboratory with the microscope.

OBSERVATIONS ON THE FAILURE OF THE RADIAL PULSE WHEN THE ARMS ARE ELEVATED

HENRY SEWALL, Ph.D., M.D.
DENVER.

The phenomena about to be described are so easily elicited and, at times, are so obtrusive in the routine of clinical examination that it is impossible they should have altogether escaped the attention of observers. Yet, with the exceptions noted below, I can find no definite account of the subject and am convinced that it has, at least, not become a part of general knowledge. A rather prolonged study of the facts involved has shown that their explanation demands careful consideration, and in view of the lack of crucial evidence as to their full meaning an attempt will be made in this essay to distinguish as sharply as possible the objective facts from their interpretation.

THE METHOD OF EXAMINATION AND THE GENERAL RESULTS OBTAINED

In a considerable proportion of persons, one or both radial pulses may fail at the wrist when the arms are passively stretched above the head. In carrying out the experiment the subject under observation should be seated comfortably, with the mind passive and the body erect. The observer stands opposite and gently clasps each wrist of the subject by circling it with the thumb and forefinger, using the middle and ring fingers to palpate the respective radial pulses.

The arms of the subject are now lifted by the observer until they occupy approximately a vertical position. During this maneuver the pulse of the subject is steadily palpated, and if it undergoes no marked change the subject is told to breathe deeply, this modification of respiration frequently induces pulse changes not apparent under ordinary conditions. Following are the chief results that may thus be obtained. 1. In relatively few persons the pulses become more distinct when the arms are raised. 2. In the majority of people the pulses weaken, and the blood pressure in the radial arteries evidently falls under these conditions. In my observations the merely weakened pulse was classed with the strong, only cases in which the pulse completely failed under both fingers applied to the artery were considered pulse failures. 3. In a considerable proportion of persons one radial pulse, usually the left, completely disappears when the arms have been elevated to a certain angle, say 60° above the horizontal. Lowering the arms gradually, the lost pulse returns, but it is at once seen that the phase of respiratory movement controls the pulse status, for the pulse only returns, first, either during the movement of inspiration or that of expiration, becoming fully restored only when the arms are brought still lower. In the other arm the radial pulse may also completely fail when the member has been raised to a position more nearly approaching the vertical than was necessary in the first case. 4. Frequently, though the pulses remain during quiet breathing with the arms extended upward, if the respiration be deepened one or both pulses may completely fail, the failure usually being limited to a single phase of respiratory movement. A pulse which has remained during quiet breathing may, as the result of a single deep breath afterward fail in ordinary inspiration or expiration. 5. The respiratory and other characteristics of pulse failure in the same person usually remain the same, even over intervals of many months, but in different subjects the completeness and rhythm of the pulse failure as regards the respiratory cycle manifest every conceivable variety. Thus, the pulse in either elevated wrist may remain absent throughout both phases of gentle respiration, or it may fail except at the beginning of inspiration or only at the end of expiration, or the failure may cover apparently any portion of the respiratory cycle, though evidently being initiated by extremes of inspiration or of expiration. When the respiration is deepened pulse failure is usually accentuated, but, on the contrary, deep breathing not infrequently restores the pulse, and usually markedly strengthens it in the phases of no failure. 6. In exceptional instances, the radial pulses in the elevated wrists disappear in opposite phases of respiration, for example the right radial pulse may fail only in inspiration, while, during these same observations, the left radial fails only in expiration. Somewhat more frequently during a prolonged experiment, the respira

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above the head The radial pulses remain during gentle breathing, but with somewhat deepened respiration both pulses disappear throughout the phase of inspiration, the arms are lowered until the hands rest on the knees, and the pulses still continue to fail during deep inspiration On a later date the left radial pulse fails in the same way during gentle inspiration, while the right radial persists even throughout deep respiration During the phase of expiration the pulses are much larger than normal

CASE 2.—Miss I., aged 18 Suffered from asthma all her life until she came to Denver two years ago, since when she has been free from attacks Patient's lungs practically normal Sitting in bed, the left radial pulse fails during ordinary inspiration, when the arms are depressed about 45 degrees below the horizontal (the forearm being bent at the elbow and held vertically) When the arms are raised to an angle of about 50 degrees above the horizontal both radial pulses fail throughout ordinary respiration When the patient lies supine, the arms being held vertical, both pulses return strongly

These are simply somewhat exaggerated examples of similar results obtained in other cases, both normal and pathologic Of definite anatomic conditions which interdict the described pulse failure, extensive arteriosclerosis is the most constant

Evidence will be given later on for the belief that the persistence of the pulse in debilitated subjects of arteriosclerosis is a sign that the sclerosis involves the splanchnic arteries In certain of such cases the arterial hypertension can be controlled by the administration of nitrites and in others not In the former class, when arterial blood pressure has been lowered by nitrites, the pulse weakens much when the hands are raised, in the latter not

PHYSICAL AND PHYSIOLOGIC CONDITIONS WHICH DETERMINE PULSE FAILURE IN THE ELEVATED ARTERIES

1 *Influence of Gravity.*—As already noted, when sitting erect a person may lose the radial pulses when his arms are raised to a variable angle above or even below the horizontal, but when the supine position is assumed and the arms are sustained in a vertical position, the pulses return strongly at the wrist It seems obvious that gravitation of the blood must be the ruling factor in this difference Striking evidence of the influence of gravity on maximal arterial blood pressure is presented by Stevens,[1] who found that in a healthy man lying on his side the maximal blood pressure taken in the upper arm averaged 112 mm Hg, as against 155 5 mm in the lower arm In the present work many experiments were made to determine the influence on the elevated radial pulse of gravitation of blood into the abdominal vessels or the lower limbs A chair was constructed whose seat could be raised to any desired height above the floor and which was supplied with an adjustable back rest. To the front edge of the seat was hinged a board nearly two feet in length In carrying out an observation the subject was seated on the chair, with feet hanging free or resting on the floor, with the thighs inclined downward The arms of the subject were now lifted by the observer and the occurrence of pulse failure remarked While the results were being noted an assistant raised the free end of the swinging board, thus lifting the feet of the subject to the level of the pelvis, the thighs inclining somewhat upward The observer at the same time noted any change undergone by the pulse in the elevated radials Observations carried out in this manner showed no constant results, in some persons the pulse in the elevated wrists failed more readily when the legs were dependent than when raised, in others the reverse was the case Often change in level of the legs had no special influence on the radial pulse Marked alteration of pulse rate on changing the level of the legs was noted in but one instance, as follows

CASE 3.—Mr H., aged about 32 Seated, legs hanging free Wrists held up, forearms vertical and arms about horizontal, the right radial pulse fails completely except for two beats at the beginning of inspiration, the left radial pulse remains unchanged, its rate is 100 per minute The legs are now raised, the respective pulses remain as before, but the rate of the left radial drops to 82 The legs are again lowered, the right radial pulse becomes stronger for a moment and then returns to its former condition, the rate of the left radial rises to 96

No demonstration could be clearer that the pulse rate *per se* has nothing to do with the pulse failure under discussion

Observations carried out on subjects in a standing as compared with a sitting position showed a slight but not decided excess of pulse failure in the former posture It may, therefore, be concluded that gravitation into the vessels of the lower extremities plays no important part as a cause of failure of the elevated radial pulse

It might naturally be concluded, even without the important teachings of Leonard Hill,[2] that simple gravitation into the abdominal vessels would amply account for loss of pulse in the elevated radial arteries That the problem is not so simple is obvious for the following reasons 1 In the supine position the pulses do not fail with the arms vertical 2 Mere gravitation should affect nearly equally the two pulses, whereas it is common for one pulse to fail completely while the other remains strong 3 It occasionally occurs that both radial pulses completely fail when the wrists are held at about the level of the eyes, if this effect were produced by mere gravity there should be a coincident anemia of the brain, which would provoke obvious symptoms I have observed, on the contrary, that when dizziness supervenes as the result of deep respiration, pulses which had failed tend to return during the nervous disturbance

In my experiments it was attempted to estimate the effect on pulse failure of drainage into the abdominal vessels by compressing the abdomen With the subject sitting upright and his back well supported, a pillow was laid across the abdomen and kept in place by a strap, the free ends of which were held by an assistant standing behind the chair At the word of command the strap was drawn tight and the pillow firmly pressed against the abdomen, the observer in the meanwhile, of course, noted any changes in the character of the elevated pulses When pressure is applied to the abdomen in this manner the radial pulses, which may have weakened or failed in the suspended wrists, usually grow stronger, or return if absent, on the contrary, there is a weakening of the pulses when the abdominal pressure is released When the pressure is applied the pulse rate may suddenly drop ten or more beats in the minute due, no doubt, to vagus inhibition excited by the heightened arterial pressure It has been noticed that even the constriction from the waistband of a garment may interfere with the disappearance of a pulse which is mani-

1 Blood Pressure and Pulse Rate as Influenced by Different Positions of the Body THE JOURNAL A. M. A., October, 1904

2 Influence of the Force of Gravity on the Circulation of the Blood. Jour Physiology xviii 15 1895

Indian Medical Gazette

FEBRUARY

THE ANNUAL SANITARY REPORT OF THE PROVINCE OF BIHAR AND ORISSA

The Annual Sanitary Report of Bihar and Orissa, by Major W C Ross, is an exceptionally interesting and instructive document, which should be read not only by those who are engaged in public health work, but also by all other classes of medical men in India In connection with cholera, Major Ross lays special stress on the fly as being even more important in spreading the disease than infected water He also lays stress on the necessity for an organization with a trained staff to be ready to take action immediately on the outbreak of the disease. This organisation should be maintained by the local bodies and should provide for prompt reporting followed by instant action

Experimental anti-malaria measures in small selected areas gave the usual results which may be stated in Major Ross's own words

"The results are neither satisfactory nor instructive The people dislike the frequent use of quinine even when it is provided free and they did not interest themselves in the operations for filling up or oiling mosquito-breeding places The investigation work of the doctors in charge was inexpert and casual, and little information of real value has been collected The net result in the improvement of the health of these areas is problematical, but is probably nil"

A spleen census was carried out in certain districts by Dr Tewari Such a census could very easily be made by the vaccination inspecting staff, and from it a malaria map of India could be prepared within a very few years, as was suggested sixteen years ago by the writer of this editorial

Major Ross is not very optimistic as to the possibility of stamping out malaria in Bihar by quinine prophylaxis or by anti-mosquito measures

Like Dr Bentley, in Bengal, he has great hopes of combining soil improvement with malaria reduction by scientific draining and flooding

It would certainly be well worth while to carry out really satisfactory experiments in selected areas of Bengal and Bihar after a very thorough preliminary examination of all aspects of the problem

It is unlikely that any stereotyped programme would be suitable for every place, and it is essential that there should be a careful investigation of the selected locality by a sanitarian, an entomologist, an agriculturist, an engineer and a representative of the people of the place

Much harm might result if an expensive experiment were carried out and failure were to result from some factor which was overlooked for want of a thorough preliminary survey

Plague continues to show a tendency to a gradual diminution in virulence and prevalence in the affected areas and it still shows no sign of extending into Orissa, Chota Nagpur or Purnea, so there appears to be good ground for hoping that the disease has "shot its bolt" and is on the wane All the more reason for hastening its departure by "the permanent separation of the rats from the people"

Major Ross considers that the prevention of plague epidemics is largely an economic question and depends on an improvement of the economic condition of the people

We cannot too often reiterate the necessity for rational education, by which the people would learn how to improve their economic condition and at the same time to take full advantage of the power thus conferred for the prevention of the disease Without intelligent co-operation on the part of the people little can be done, and co-operation depends on knowledge

Much the same line of argument is adopted in the case of hookworm disease, in connection with which Major Ross lays stress on the impossibility of dealing with the problem on a large scale without improvement of the economic condition of the people On the other hand, it has been abundantly proved that the increase in efficiency resulting from the eradication of the hookworm is so great that the cost of the preventive measures is repaid many times, and we hope that Major Ross will be able to persuade his Government to carry out an experimental campaign in a selected area on lines comparable with those employed with such success by the Rockefeller Foundation For the conditions prevailing in India, special measures will have to be worked out, but the sooner a beginning is made the better

Organized sanitary work in the province is as yet on a small scale, but encouraging

of the pulse, though later the pulse may, it is said, disappear[8] In radiographic observations carried on by Dr S B Childs and myself it has been clearly demonstrated that in the state of modified inspiration described the heart and lungs are greatly engorged with blood as compared with their state during the modified expiration Clinicians and physiologists, as a rule, seem to have no difficulty whatever in explaining any modification of pulse volume which is associated with respiratory activity, by assuming it to be due to variations in the capacity of the vascular bed of the lungs[9]

There are several reasons why the results of my observations can not be explained in such a simple manner, notwithstanding that many of the most striking examples of pulse failure were exhibited by the subjects of more or less extensive pulmonary tuberculosis, with the attendant modifications of respiratory mechanics

1 The removal of a considerable mechanical obstruction to the blood circuit in the lungs produces no such effect on the pulse as should be expected under this hypothesis Thus

CASE 5—A lady, aged about 43, had carried a massive left sided pleural effusion of inflammatory origin for a number of days Just before aspirating more than two quarts of serum, the left radial pulse, with arms elevated, weakened and at times failed with deep inspiration After a week the left pleural cavity had refilled Before aspirating about two quarts of serum, the left radial pulse fails in deep inspiration Just after aspiration, the process lasting about half an hour, the left radial pulse is smaller and it fails at times in ordinary inspiration, then, later, it does not fail even in deep inspiration, later, for a while, the left radial pulse fails in ordinary and deep expiration, and then returns

CASE 6—Mr D, aged 61 Considerable arteriosclerosis Patient in fair general condition, but afflicted with an enormous abscess of the liver In the sitting position the liver flatness reached the level of the third costal cartilage With the arms raised, the radial pulses remain both before and after aspirating a quart of pus

These facts recall the results of experimenters who have found that a very large proportion of the pulmonary blood circuit may be blocked without affecting the systemic blood pressure

2 In a certain small proportion, about 1 per cent., of cases in which the pulse failed in the elevated arm, it could not be detected that the failure occurred preferably in one rather than in the other phase of respiration

3 Very frequently the pulse failure occurred during gentle respiratory movement, and occasionally a pulse so lost would be strongly restored by vigorous breathing

4 In different cases the same respiratory movement would have opposite effects on the pulse, in one person the pulse or pulses would fail preferably during inspiration and in another they would return strongly in inspiration and fail throughout expiration

5 Frequently a pulse which with a low elevation of the arms would fail during one phase of respiration, at a higher elevation would be lost through both phases

6 Although, as a rule, the respiratory phase of pulse failure in the same individual remained constant during observations made at intervals of many months, in a certain proportion of persons the pulse which failed preferably during inspiration on one occasion failed easier in expiration on another It has even been found, though rarely that, during the same respiratory cycle, one radial pulse would fail in inspiration, returning in expiration, while the other pulse would fail in expiration and return in inspiration In a former communication[3] I showed that in many individuals it was easy to demonstrate an inspiratory inrush of blood into the peripheral veins, presumably due to an inspiratory dilatation of the corresponding arterioles It would seem as if the two phenomena must be related, however, the inspiratory swelling of the veins occurs both in the recumbent and in the erect postures, while pulse failure is only found, in my experience, in the latter

8 Description of Experiment by Reichert Amer Text Book of Physiology 1 1100 p 4[illegible]

9 Witness for example Sir Jas Barr's admirable address Lancet, Aug 25 1900 481

SUMMARY AND CONCLUSIONS

It seems to me that the foregoing observations demonstrate in a striking manner the intimate relations of the nervous mechanisms concerned in respiratory and vascular movements, and the influence of the gravitation of the blood mass thereon In the upright posture the blood tends to settle in the capacious channels of the splanchnic vascular bed As pointed out by Leonard Hill[2], the "head-up" position in four-footed animals may lead to extraordinary lowering of blood pressure in the carotid arteries and presumably to critical anemia of the brain But in man there has been developed a compensatory reaction, undoubtedly chiefly vasomotor, by means of which the vessels of the dependent parts of the body, especially, probably, the arteries of the splanchnic area, contract under stimulus of the upright posture and maintain a fairly uniform distribution of the blood mass

No physiologic coordination can be conceived that is more important than this to the welfare of the organism as a whole It is to be expected, therefore, on *a priori* grounds, that minor compensations having the same general purpose should here and there disclose themselves When the radial pulse fails in a wrist which is raised above the level of the head, the result may be due either to passive drainage of the blood from the artery, followed by a purely local contraction of the arterial wall, or to active vasomotor contraction of the vessel under the stimulus of gravity As touching the former view, Bayliss[10] has shown that peripheral arteries freed from their nervous connections respond to variations of internal pressure by contracting as the pressure rises and dilating as it falls It is difficult to see how these results can explain the facts presented in this paper Sifting the great number of observations bearing on this subject, the latter explanation seems to be the only possible one In other words, according to this view, pulse failure in the elevated radial artery is a sign of vasomotor activity and belongs to the series of physiologic compensations It is comprehensible as such, if we presume that contraction of the radial arteries helps to maintain blood pressure in more vital tissues by diverting the blood stream from less sensitive organs It has often been observed that pulse failure which is obvious in the elevated wrist at the beginning of a series of observations, is not evident later on That is, the pulse failure mechanism seems subject to fatigue Excitement or emotion which increases the total outflow of nerve energy tends to inhibit the pulse failure In general, in perfectly normal individuals who are in vigorous physical condition, the radial pulse is maintained when the arms are raised In the same class of persons when more or less debilitated by confining occupations or subnutrition, the pulse often fails In an acute febrile disorder the pulse usually remains when the arms are

10 The Reaction of Blood Vessels to Alterations of Internal Pressure Jour of Physiology xxvi 29 1901

but the sooner a beginning is made the sooner results will be obtained

THE GENERAL MEDICAL COUNCIL AND MIDWIFERY

The following announcement in the *Medical Press and Circular* of November 30th will interest our readers

The action taken by the Council is likely to lead to excellent results, as it will give time to the Indian Universities to set their houses in order and it will also serve as a lever to enable the Medical Colleges to obtain from their respective Governments improvements in the facilities for teaching Midwifery

The General Medical Council, at the meeting on November 21, of the Executive Committee, postponed action for the present in reference to the inadequacy of the Indian Universities' facilities for teaching midwifery This lack of facilities militated against the students obtaining the necessary knowledge of the subject demanded by the General Medical Council for the purposes of a registrable qualification The universities were so notified, and this led to a spirited protest, as being harmful to medical education in India This protest was accordingly dealt with by the Executive Committee, as the result of which the committee resolved that, "in view of the replies of the Indian Universities, which indicate their purpose to improve the standard of their requirements in midwifery, and of the representations of the Indian Government and the Secretary of State, the Executive Committee agree to postpone the consideration of the question of recognition from February, 1922, to a later date, and in the meantime to accept the suggestion made by the Secretary of State that a report, on the matters detailed in his official letter, should be obtained and communicated to the Council" It was also agreed that the committee intimate to the Secretary of State that it is prepared to nominate to the Government of India a member of the Council, who should accompany the medical officer appointed to visit the Indian Universities, and be associated with him in framing a report on the question meanwhile Recognition will, in consequence be continued in respect to any recognised Indian degree or diploma which is satisfactorily shown to offer the statutory guarantee of proficiency As soon as the report is received further action will be taken

Current Topics

The Treatment of Cataract

By Lt-Col Henry Smith, cie, ims,
Amritsar

Lieutenant-Colonel Henry Smith delivered the Oration on Ophthalmology before the Eye, Ear, Nose and Throat Section of the Ohio State Medical Association, during the Diamond Jubilee Meeting, at Columbus, May 4, 1921

In the course of his lecture he said —

I will now put before you, in a general way, the advantages and disadvantages of the two rival operations

Intra-capsular extraction is only within the range of men who have had high-class technical training in the art It is a difficult operation The capsulotomy operation is a relatively easy and simple one Intra-capsular operation requires a skilled assistant. The same amount of skill is not required on the part of the assistant in the capsulotomy operation.

Any incision if large enough for intra-capsular extraction and any flap will do equally well in either operation according to the preference of the operator Similarly an iridectomy or no iridectomy may be done

The intra-capsular procedure can be done with equal ease at any stage of maturity

In the capsulotomy operation the cataract should be mature

After-cataract follows the capsulotomy operation and requires to be operated upon. There is no after-cataract following an intra-capsular operation

Iritis is a frequent complication after capsulotomy but is practically absent after the intra-capsular operation Vision is better after intra-capsular than after capsulotomy Vitreous escape, in skilled hands, is about the same in both operations

Sepsis more frequently follows the capsulotomy operation often due to tags of capsule left in the wound

Two disadvantages of the intra-capsular operations are (1) a somewhat larger proportion of prolapse of iris in the non-iridectomy cases, and (2) a slightly drawn-up pupil in the iridectomy cases

Detailed discussion of complications

Choroidal detachment is equally common to both I would like now to go into a few details with you

Iritis—Before I raised this issue in 1903, it was the generally accepted view that iritis, following cataract extraction, was due to the bruising of the iris in the process of extraction I stated that that chapter would have to be re-written as iritis did not follow in one in 500 cases in extraction of the lens in capsule through an entire pupil which had not been acted on by a mydriatic, though there must of necessity be much more bruising of the iris in the latter case than in the capsulotomy operation Iritis, therefore, is caused by the lens matter and capsule left behind in the capsulotomy operation as I have often previously laid down

After-cataract—If you refer to the journals of the past, you will observe that before the year 1903 the treatment of after-cataract was the evergreen of ophthalmological meetings Before that date the treatment was regarded as being as serious from the point of view of the patient, as the extraction of the cataract itself

Since 1903, if you look up the discussion on after-cataract, you will notice the change that has come about It has hardly appeared as a full dress subject at any meeting You would infer that to-day it is a trifling, unimportant proceeding associated with no sinister results

dition of suppuration developed for which it was decided to make a vaginal counter opening Through an oversight in preparation the bladder was not emptied according to routine, and, in making a counter opening through the lateral vaginal fornix, the bladder was inadvertently injured, so that the patient, besides her abdominal sinus, is now the unfortunate possessor of a urinary fistula which will probably require another operation for its cure

With the exception of the two cases above narrated, all of the others were discharged from the hospital as "cured" Of these 158 cases I regret to say that I have been able to examine and to secure subsequent reports from only 85, the others having passed out of my horizon, so that nearly one-half of my work in conservative surgery of the adnexa is at present beyond my reach

The history of conservative surgery of the pelvis dates back a long time Thus the evacuation of pelvic abscesses, or adherent pus tubes, per vaginam or rectum or through the abdominal wall, was practiced by surgeons in the early days The curved, sharp-pointed bistoury having been plunged into the abscess, the blade was washed, or possibly only wiped dry, and returned to the trousers pocket As for pelvic hematocele, which we now know to be regularly the result of ectopic gestation, we learn that Ruyschk of Amsterdam alludes to it as far back as the year 1737, and that in 1831 Recamier opened into one under the impression that he was opening a pelvic abscess How comparatively seldom to-day do we treat pelvic collections of blood or pus by simple incision and drainage? And yet conservative surgery of this kind still has its appropriate place

THE BEGINNING OF ASEPTIC SURGERY

Then followed the period in which tubes and ovaries were needlessly sacrificed because surgeons found that the introduction of asepsis reduced the mortality of intraperitoneal operations With what degree of pardonable pride did not the surgeons of twenty years ago allude to their "successful" work in this direction? It was the neurologist and the general practitioner who called a halt to this form of malpractice Dr A. Jacobi was at that time quoted as having said that he preferred to see most of these ovaries in the abdominal cavities of women than in the surgeon's jar The result of this reaction was sudden and decisive, so that to-day it is, indeed, rare to meet a surgeon who is willing to sacrifice healthy or micro-cystic ovaries for the cure of dysmenorrhea hysteria and epilepsy

If the gynecologist deserves to have a place in surgery at all—and this seems to be denied him by certain large hospitals and by some of the best general surgeons—it is because of much of the work done in this particular branch of pelvic surgery It is not the purely mechanical part of his work which justifies the gynecologist to pose as a specialist. It will be conceded that every good surgeon should be able to do this kind of work equally well provided his opportunities for gaining experience occur often enough It is in the laboratory, in the clinic and in the operating room that the student devoted to diseases peculiar to women gets his advantage over the general practitioner of medicine and over the general surgeon The result is a clearer insight into diagnosis, a better judgment as to the proper course to pursue, and greater familiarity and facility in the technical details of gynecologic operations

About ten or twelve years ago leading gynecologists conceived the idea of substituting conservative surgery of the adnexa for the radical work then in vogue, the object being not to reduce the mortality rate but to reduce the morbidity after operations on the tubes and ovaries One of the best of these early papers was written by Pozzi, and in it he describes the technic of conservative surgery of the ovaries—a technic practically adopted by all operators to-day The conservative surgery of the tubes owes its chief impetus to American gynecologists—chiefly to the writings and work of the late Dr A P Dudley In developing this kind of work operators banished the old mass ligature, which, by compressing nerves in the constricted tissues, was responsible for much of the postoperative suffering so often met with under the older methods of dealing with pedicles Silk ligatures, which used to be followed frequently by sinuses of the abdominal wall were similarly discarded, so that most operators now use catgut exclusively

THE OVARY

The ovary presents a large field for conservative work when it is the seat of cystic disease The microcystic ovary, *as pointed out by Welch of Baltimore and* W Gill Wylie of New York, is not in itself a pathologic lesion of sufficient importance to justify the opening of the abdomen If the abdomen is opened, however, for other reasons and such ovaries are discovered the cysts may be punctured with a needle or, as the German operators prefer, with the point of an actual cautery (ignipuncture) so as to destroy thoroughly the cyst wall As a rule, all of the cysts will not be reached by either method, but, as the lesion is ordinarily insignificant, this need cause little regret Another method to attack such ovaries, particularly when there is reason to feel that they are the seat of abnormal internal tension, is to split the cortex or bisect the ovary and prick the little cysts seen in each segment That tension in an ovary is relieved after bisection there can be no doubt, but often it will be necessary to suture the two halves together again in order to control oozing of blood, which, to my mind nullifies the advantages of the operation For this reason in recent years I have at times reduced the size of swollen micro-cystic ovaries by exsecting a longitudinal segment, like a slice from a watermelon, and then have stitched the wounded surfaces together

The large unilocular or multilocular ovarian cysts, reaching to the size of a cocoanut, football or larger, were formerly subjected to complete removal To-day, thanks to the labors of Boldt and some German operators, it has been proven that enough ovarian tissues can be found at the base of these tissues to leave a functionating ovary of greater or lesser size The tumor is circumcised and cut out at its base, where usually some healthy-looking ovarian tissue will be recognized, which can be left No ligation of vessels is necessary The remnant of ovarian tissue is now sewed in such a manner that its raw surfaces are brought in close apposition I have known large tumors of both ovaries to be treated in this manner in which menstruation subsequently followed its normal course

The smaller ovarian cysts, ranging in size from a hazelnut to a plum, are either developments from a Graafian vesicle or a corpus luteum When their contents are hemorrhagic they are known as hematomata Ordinarily they can be exsected with the sac intact, or the tumors can be incised and the sac wall drawn out with forceps or scraped off with the knife In either case a few stitches readily obliterate the bed of the cyst Some operators like to turn in the peritoneal coat of the ovarian wound with Lembert sutures, but I regard this *as an unnecessary refinement*

Thus India will have a voice in the decision It has come to live and dominate its opponent in the whole East, and in my opinion will come to be *the operation* the world over twenty years hence.

The Treatment of Syphilis

By LIEUTENANT SHAFER,

Of the Medical Corps of the United States Navy

A PAPER on "Four Centuries in the Treatment of Syphilis," by Lieutenant Shafer, of the Medical Corps of the United States Navy, in the *Military Surgeon* of November 1921, forms an excellent resume of the various systems of treatment of syphilis in vogue at the present time The following extracts are in the words of the author, and they serve to show to what lengths it is necessary to go if we are to hope for the *therapia magna sterilisans* of Ehrlich Old-fashioned people have some excuse for thinking that perhaps Hutchinson's teachings may not after all be obsolete It is certain that Hutchinson had evidence as to the effect of his treatment not only in his patients but also in their children and grandchildren, so when he spoke of the cure of the disease his words carried authority

The modern treatment of syphilis, for which extravagant claims were made at first, has been responsible for a great deal of suffering, caused not by the treatment itself but by the erroneous ideas connected with it

When we remember that a single dose of salvarsan was claimed to bring about a radical cure of syphilis, we cannot help wondering at the absence of scientific caution displayed by Ehrlich and his pupils The present position, according to our ideas, is that the new preparations under certain conditions can produce very rapid and striking results in the treatment of syphilis, but even a complete course of treatment, such as one of those described by Lieutenant Shafer, cannot be guaranteed to bring about a cure, and we recommend those of our readers, who are inclined to caution, to follow up such a course by the line of after-treatment recommended by Johanathan Hutchinson

At the present time the temperate opinion of the world recognizes that the prompt eradication of syphilis by specific treatment is only likely to be successful in the early weeks of the disease If the disease is recognised within the first ten days after the appearance of the chancre, vigorous treatment then begun has an excellent prospect of aborting it This prospect rapidly diminishes after the first ten days, and after the disease has become systemic to the point of producing the secondary eruptions the prospect of quick cure by specific treatment with salvarsan and mercury has almost vanished

When administering mercury by mouth the various preparations are probably of value in the following relative order Mercury with chalk, bichloride of mercury, and the protoiodide and biniodide of mercury There can be little question but that the efficiently applied inunction is the best available method for the administration of mercury in syphilis and has the advantage that it is not cumulative. When using mercury by injection the employment of the soluble salts has the advantage of fixed dosage, rapid availability, and ease of control of the toxic symptoms should they arise. They have, however, to be administered at daily or at the most short intervals, which constitutes their main objection The insoluble salts are administered at intervals of from five days to one week, but they are distinctly cumulative, and their absorption is slow The studies of Schamberg, Kolmer, and Raiziss show that at the end of six or seven weeks almost 50 per cent of the mercury may remain unabsorbed at the site of injection and that weekly administration leads to cumulation of the drug in the tissues For rapid effect with little cumulative action, therefore, soluble salts are to be recommended

Pinkus recommends large doses of potassium iodide in secondary syphilis, accompanied by involvement of the central nervous system The most striking results are apparent, however, in the treatment of gummatous infiltration and have no place in this paper It should invariably be administered in conjunction with mercury, whose germicidal action upon isolated spirochætes is aided by the breaking down and absorption of infiltrates

SALVARSAN

In general, the average adult subject should receive no more than 0 3 gram of old, or of neosalvarsan at the first injection One week between injections is the usually accepted interval

Dreyfus urges high total dosage amounting to 5 or 6 grams in a period of six to eight weeks Such large dosage is, however, losing, instead of gaining, favour The general practice now among conservative workers is to use 2 to 3 decigrams for the initial dose with 4 and at a maximum 6 decigrams for subsequent weekly doses

The first essential to an attempt at abortive cure is a prompt diagnosis of the primary lesion Wherever syphilis can be recognized in the primary stage by the demonstration of the *Spirochæta pallida,* abortive cure should be attempted.

The minimum course prescribed in 1917 by L W Harrison at the military hospital, Rochester Row, London, for average early cases of syphilis in the British Army is as follows Three doses of 0 3 gram of salvarsan on the first, fourth, and eighth days, 0 4 gram on the twenty-second, 0 5 gram on the twenty-ninth forty-third, and fiftieth days , and eight injections of mercurial cream at weekly intervals On the fifty-second day a Wassermann test is made, and if it is not completely negative, potassium iodide is given for two weeks, followed by a course of three weekly injections of salvarsan of 0 3, 0 4, and 0 5 gram, respectively, and three injections of mercurial cream If the blood is still positive, a series of short courses is prescribed similar to the last three injections of the first course. He states that it would probably be better to give a complete course even if the case were negative on the fifty-second day

A system of standard treatment for syphilis was devised by Young for the American Expeditionary Forces and is a very commendable one. It comprises, as a minimum, four courses of treatment in a little over one year The first course consists of eight injections of neoarsphenamine in graded dosage from 0 3 to 0 9 gram The first three injections are given at four-day intervals and the rest at weekly intervals A soluble salt (cyanide of mercury) is employed at the start, and then the insoluble gray oil is substituted The first course is followed by a thirty-day rest interval, at the end of which a Wassermann reaction of the blood and a complete serological examination of the spinal fluid is made Regardless of serological results, a second course, which consists of five weekly injections of neoarsphenamine in graded dosage from 0 45 to 0 9 gram combined with five injections of gray oil, is instituted Two more courses are given, regardless of the Wassermann reports, at a ten-week and a three-month interval Following the fourth course a four-month rest interval is allowed, and if the blood Wassermann and spinal fluid are then serologically negative, no

Hence conservative surgery of the adnexa has for its main objects 1, The removal of diseased tissues, 2, the relief of various forms of disturbances and suffering, 3, the preservation of menstrual function, 4, the possible overcoming of pathologic conditions which are responsible for sterility, 5 the avoidance of the collapse symptoms resulting from the sudden onset of the menopause, 6 the prevention of senile atrophy and changes which take place about the vulva and vagina and shorten the enjoyment of sexual life in many cases

A COMPARISON OF CONSERVATIVE AND RADICAL CASES

Over conservative methods, radical adnexal surgery has the advantage of positively removing all of the pathologic tissues (and frequently much more than necessary), giving the patient on the whole a better guarantee against subsequent operations It does not guarantee immunity from postoperative pain because adhesions are still possible and nerve inclusions can not always be avoided Those who remove the uterus regularly with the diseased adnexa also submit their patients to a greater operative risk, and I am satisfied that this organ is only too often thus unnecessarily sacrificed

Conservative surgery, on the other hand, aims at saving healthy tubes or ovaries in whole or in part and never sacrifices the uterus Besides removing the tissues which are distinctly diseased, it aims at preserving the menstrual function It occasionally overcomes the obstacles to impregnation It always inhibits the local and general results of the sudden menopause

For the purposes of better study I have divided my work in this field arbitrarily into three groups of cases Group 1, in which one tube or a portion of one tube was removed, and also incision and drainage of a tube Group 2, in which ovaries were bisected or punctured and cysts exsected, also incision and drainage of an ovary Group 3, in which adhesions were broken up with or without plastic conservative surgery of the tubes or ovaries The three groups comprise 160 cases, of which 26 belong to the first class, 44 to the second, and 90 to the third class

To judge properly postoperative morbidity one must be in possession of plenty of facts Hence only multiplied experiences of numerous operations can determine percentages with any degree of fairness The operator who sees his patient subsequent to operations will adjudge the result as satisfactory if he finds the pelvic organs in good condition and functionating the abdominal scar firm, and the general nutrition of the patient good The family physician, however, listening to postoperative tales of distress dependent on nervous or gastrointestinal derangement and exerting every endeavor to relieve the patient of a persistent dysmenorrhea or dyspareunia will be apt to take a more pessimistic view of the "successful" operation

Looking at my work from my own viewpoint and asking the thoughtful reader to make full allowance for the "personal equation" inevitably present I beg to submit the following observations on postoperative morbidity

In Group 1 (conservative work in 26 patients on the Fallopian tubes) I have noted unsatisfactory results in two cases One of these patients a year later was suffering from a pelvic inflammatory mass which could be distinctly felt In the second case the patient required a secondary laparotomy for the removal of an infected stump left after the first operation One of the patients in this series of cases died suddenly of a cancer of the rectum which does not reflect on the propriety of the operation previously done by me

In Group 2 (conservative work on 44 patients on the ovaries) six patients had good reason to complain of postoperative suffering A distinct pelvic mass was present in one case and a secondary operation was required in another

In Group 3 (conservative work in 90 patients with adhesions of tubo-ovarian disease) I have notes of seven unsatisfactory results In three cases of this group the patients presented pelvic inflammatory masses, subsequent to operation, which caused much suffering Four patients required secondary operations The two cases alluded to in the early part of this paper belong to this group

Although the total number of secondary operations done in my cases after conservative surgery amounts to only six cases, I readily concede that this figure is contestable on the ground that I lost sight of a certain number of my patients after they left the hospital Some of these patients possibly required secondary operations elsewhere at some subsequent period As six patients required secondary operations in the cases which I was able to follow it may be fairly assumed that six others were submitted to similar operations in the other half lost from view Thus I infer that the maximum necessity for secondary operations after conservative adnexal surgery does not exceed 7 per cent

WHAT IT MEANS

Too much stress can not be laid on the importance of reaching some conclusions in this matter, for it is in regard to the guarantee against secondary laparotomy that radical adnexal surgery has a distinct advantage over conservative work If investigations by other operators, based on careful and positive observations, should prove that the morbidity after conservative adnexal surgery is so great as to require an unwarranted number of secondary operations then the advantages of preserving ovulation, menstruation and possible fecundity are clearly outbalanced by the inconvenience, if not actual danger to life, of a secondary laparotomy The results which my own experiences thus far have reached, however, point the other way

The general health of patients was noted in eighty-five cases at periods of time varying between one month and twelve years after operation Of these thirty-five women were seen within six months from the time of operating, and in these the postoperative morbidity reached the highest percentage While it is possible that many of these women seen within this period of time ultimately went on to perfect recovery, it is just as logical to assume that others remained more or less permanent invalids and had to submit to further operative intervention Taking all in all, I estimate the postoperative morbidity after conservative surgery of the adnexa to be about 23 5 per cent In other words, I believe that three out of four of these women are cured or left free from important symptoms attributable to the pelvic structures

That many women who keep complaining for the first six months or year after operation gradually pass into an improved condition or perhaps become so accustomed to their ailments that they cease to complain is a frequent experience in the domain of surgery Of fifty cases examined by me after the lapse of six months from the time of the conservative operation only 18 per cent were regarded as ill enough to require treatment We must therefore, never hastily advise secondary operations I have numerous notes in my history books of

of the cases, most frequently in the bronchi or bronchioles and in the latter situation often in pure culture

Additional evidence of the causative role of Pfeiffer's bacillus in influenza is as follows —

In the pharyngeal secretion of healthy persons obtained during the Bombay epidemic (August and September, 1919), Pfeiffer's bacillus could only be demonstrated in 18 per cent. of 138 specimens, while during the same months it was found in 75 per cent. of the sputa of influenza patients examined

Agglutination tests—The following conclusions have been drawn from a fairly large series of experiments with the blood serum of influenza patients, convalescents, and healthy persons, carried out in Calcutta and Bombay —

(1) The blood serum of influenza patients, whose respiratory tract is infected with Pfeiffer's bacillus, possesses the power of agglutinating the homologous strain (77 per cent. of 81 cases)

(2) Agglutination of heterologous strain occurs in 40 per cent of the cases

(3) The serum of healthy persons does not agglutinate Pfeiffer's bacillus

(4) Agglutinins appear in the blood of patients during the first week of the illness, and persist for at least five weeks afterwards

The evidence brought forward shows that pneumococci were a most important factor in the influenza epidemics investigated

(1) Pneumococcus was found in 96 per cent. of 124 specimens of sputum examined during the Calcutta epidemic and in 54 per cent of 141 specimens in the Bombay epidemic.

(2) Pneumococus was present in 37 per cent of 179 blood cultures taken from the influenza patients during life or within 6 hours after death

(3) It was isolated from the pus of the accessory respiratory sinuses in 83 per cent of the cases examined post-mortem and from other parts of the respiratory tract in 72 per cent

Certain facts seem to point to its being only a secondary invader

(1) It was much more frequently found in the influenza cases during the comparatively severe epidemic in Calcutta than in the mild epidemic in Bombay

(2) During the epidemic in Bombay the percentage of healthy persons carrying pneumococci was almost as great as that of the influenza patients

(3) Seventy-four per cent. of the strains examined serologically belonged to the heterogenous collection known as group IV (American classification)

It was, nevertheless, a most potent factor in influencing the mortality rate in the epidemics investigated

Hæmolytic streptococci were conspicuous by their absence, and all the evidence goes to show that non-hæmolytic streptococci, although present in the great majority of the cases, were not organisms of importance and only accidentally connected with influenza—*The Indian Journal of Medical Research*, October, 1921

Early Symptoms of Uterine Cancer

ZWEIFEL (*Zentralbl f Gynäk*, August 13th, 1921) maintains that the success of operations for uterine cancer depends more on early diagnosis than on improvements in technique, and that the possibility of a lowering of the mortality depends on the practitioner and on the woman herself He declares that every case of uterine cancer can in all probability be permanently cured if it comes to operation sufficiently early The early manifestations of uterine cancer are as follows (1) Nodules on the vaginal portion of the cervix which on puncture do not prove to be follicular cysts (2) Erosions which bleed on slight touching and do not heal very rapidly In both cases a biopsy should be performed as early as possible, and a microscopical examination made. (3) Itching of the external genitals is a suspicious sign (4) Hæmorrhage post coitum All post-climacteric hæmorrhages from the genitals should be regarded with the utmost suspicion In 75 per cent. of 357 cases of post-climacteric genital hæmorrhages collected by Mendelssohn in his Leipzig thesis in 1920 a malignant growth of the genital organs was present. No irregular hæmorrhage even during the period of sexual activity should be disregarded or treated without local examination Purulent discharge may be the first symptom of carcinoma, and for a long time may be the only sign of carcinoma of the body of the uterus—The *B M J*, November 12, 1921

X-Ray Examination of the Pelvic Viscera after Pelvic Inflation with Gas

FROM an experience of 150 cases Peterson (*Surg, Gynec and Obstet*, August, 1921) is able to confirm the finding of Stein and Stewart and of Rubin that gaseous inflation of the pelvis is a safe procedure and one which, if the injection is practised slowly, is followed by comparatively little discomfort. In about three-quarters of the cases the abdominal route was selected, in the remaining instances, which necessarily did not include acute or subacute pelvic inflammatory conditions, and in which the patients had not passed the menopause, the trans-uterine method was used, the gas being allowel slowly to penetrate the ostia abdominalia of the Fallopian tubes Peterson prefers to give injections of carbon dioxide rather than of oxygen on account of the diminished duration of the subsequent discomfort, presumably in consequence of more speedy absorption The best results are secured in a moderate knee-chest position He has found this method to be of considerable diagnostic utility in gynæcological conditions, and says that by combining bimanual pelvic examination and pneumoperitoneal roentgenography the value of each is enhanced—The *B M J*, November 12, 1921

The Isolation of Koch's Bacillus from Tuberculous Sputum by Petrof's Method

LIMOUSIN (*Ann de l'Institut Pasteur*, August, 1921) calls attention to the value of Petrof's method in the isolation of tubercle bacilli from the sputum The method, which has now been used successfully for six years, possesses the great advantage of enabling one to cultivate the bacilli direct from the sputum, instead of having to resort to preliminary animal passage Briefly, the technique consists in digesting the sputum at 37° C with 4 per cent. sodium hydrate till it is reduced to a perfectly fluid consistency After centrifugalization the supernatant fluid is pipetted off, and three or four drops of the sediment are sown on to a few tubes of Petrof's medium, which is made by adding a 1 in 10,000 solution of gentian violet to a mixture of egg with glycerin veal broth The treatment with soda suffices to dispose of the majority of the organisms likely to be encountered in the sputum, while the more resistant ones are prevented from developing by the action of the gentian violet. The author states that in every case in which tubercle bacilli were found by microscopic examination of the sputum after digestion he was successful in growing the organisms in at least two of the culture tubes inoculated out of the five put up—The *B M J*, November 12, 1921

Puerperal Mastitis

By FRANKLIN A DORMAN, M.D, and JAMES K MOSSMAN, M.B (Tor),
New York

THE appearance of acute infection in the nursing breast is sufficiently frequent, even in well regulated hospital services, to receive careful attention

The contamination of nipples by outside organisms is probably the commonest method of infection, especially in those of the severer type. Damage to the nipples from cracks, fissures or erosions undoubtedly favors the entrance of these germs Infectious contacts

theliomas particularly the pigmented ones, should be strictly classed with sarcomas On account of their clinical character however, I have classed them with the carcinomas In some of the cases a microscopic examination of the tissues was made, in others there was no such examination, because the gross appearance and the clinical history was sufficient to establish the diagnosis without question

THE VARIOUS CLASSES

The first class includes those lesions on the skin surface advanced beyond a keratosis, having a thick scale, covering an ulcerated area of long standing, with the history of growing more rapidly of late, and also those growths with elevated margins and ulcerated centers growing steadily, having started usually from a mole or papilloma

The second class includes those growths which originally began as those of the first class but had reached a more advanced stage and invaded the subcutaneous tissues, either leaving in their wake a deep ulcerated and sloughing area or by the rapid proliferation of malignant cells had given rise to a large protuberant or rose- or cauliflower-like mass

The third class includes the extensive recurrent and metastatic growths in the deep structures The original growth may or may not have been on the skin

The fourth class includes the carcinomas on the mucous membranes

The fifth class includes the primary carcinomas of the breast

The sixth class includes the recurrent carcinomas of the breast.

SKIN LESIONS

In Class 1 fifty-three cases were treated and fifty-two healed In the one not healed the treatment was interrupted by an attack of pneumonia During the attack there was renewed activity of the growth which had begun to improve Later, when the *x*-ray treatment was begun again, the growth did not seem to respond to treatment and excision was advised and done There has been no recurrence, three and one-half years afterward In four cases there was a recurrence, all of which healed again with the ray and are now healed

In five cases the patients have died, but they did not show any evidence of recurrence up to the time of their death, from one to three years after the treatment In nine cases the patients have not been heard from since their discharge, but there is good reason to believe that I would have heard if there had been any recurrence The remaining thirty-five cases are still healed, having had no recurrence The first case was healed four and one-half years ago The average number of exposures was sixteen and the average duration of treatment was five weeks The largest number of exposures was forty-six and the smallest four The longest duration of treatment was twelve weeks and the shortest was six days

The question of recurrence, which is of so great importance, depends simply on the thoroughness of the treatment, that is, whether or not all the malignant cells have been destroyed If in any form of treatment a single malignant cell is left remaining that cell will proliferate and give rise to the gross reappearance of the growth If the ray has destroyed so many of the cells that the growth has been reduced to a mass invisible to the eye the ray will undoubtedly destroy the remaining cells if its destructive influence be continued.

Many of the cases healed without producing any reddening of the surrounding tissues, or what might be called an inflammatory reaction The typical manner for such a growth to heal is to have the scab over it become thicker and thicker, dryer and dryer, the edges loosening and finally the scab comes off, leaving a smooth healed epithelial surface almost without contraction or scarring Sometimes several scabs will form before healing is complete In other cases suppuration occurs beneath the scab, under which circumstance the scab is removed and the area disinfected with a strong antiseptic ointment A fresh scab is then allowed to form and remain My experience is that patients do better when the growth is exposed to air and sunlight than when it is covered with dressings and ointments However, discretion must be exercised In cold weather dressings may be desirable

THE DOSAGE

To bring about healing in the ideal manner one must know well his apparatus in order to give just the desired dosage A dosage should be given that in ten days would not be quite sufficient to produce an erythema This effect is then kept up until the growth heals In many instances the patient being in a hurry, it is desirable to shorten the time under treatment To accomplish this the duration of single exposures is lengthened and the frequency is increased, and a slight dermatitis is purposely brought about The disadvantage of this is the discomfort and anxiety of the patient on account of the dermatitis, even though it be slight The degree of the dermatitis and the time it will develop and last can be foretold with a great deal of accuracy Such prognosis makes a very favorable impression on the patient, especially when the dermatitis has faded

Unless the influence of the ray is kept up until the growth is completely destroyed the malignant cells will require a renewed activity, which is more active and more difficult to bring under subjection again One difficulty an *x*-ray operator has to contend with is the irregularity of some patients in coming for treatment In many of the cases reported the number of exposures would have been much less and the duration shortened but for this difficulty

SKIN LESIONS WITH SUBCUTANEOUS INVOLVEMENT

Class 2 is composed of cases of advanced superficial carcinomas Practically all of the patients had previously undergone some other form of treatment, which was either primarily unsuccessful or followed by a recurrence Seventeen cases are in this class The average number of exposures was forty-nine and the average duration of treatment was five months The longest duration of treatment was twenty-two months, with seventy-nine exposures In this case the growth involved a large part of the face and nose, exposing the maxillary antrum There was a disappearance of all active evidence of the disease with temporary healing

The largest number of exposures in an individual case was ninety-three, extending over nine months The case was one of a large protuberant growth on the back of the wrist, the place healed About three years later there was a slight recurrence, which healed again under the influence of the ray Now four years later, there is no evidence of malignancy The epithelium over it is thin and sensitive, with a tendency to be scaly

A very decidedly unfavorable idiosyncrasy was apparent in two cases, Nos 9 and 15, the ray seemed to

we do not really believe any fact, however often or earnestly we try to teach it, unless we allow that fact to influence our own personal conduct I hope I am not overstepping the limitations imposed upon such a hospitable occasion as this if I repeat that if the Medical Profession is to act up to its responsibility in the teaching of the facts of Science in regard to human life, it must, as a preliminary, be willing to follow *itself* such teaching wherever it may lead, and by its own loyalty to the teaching of Science convince others that the Profession *knows* Science to be the hand-maid of life.

As regards Alcohol, we know without any doubt that a moderate consumption of Alcohol is not necessary for the healthiest and most vigorous life—the millions of teetotallers are evidence of that The result of wide and long continued observation, uncontradicted by any opposing observations, is to the effect that *total abstinence favours and does not prejudice longevity* The experienced business men who compose the Boards of Life Assurance Offices know this, and they accept risks on the *lives of teetotallers more readily than they do those on the lives of moderate drinkers* We certainly *know* that Alcohol is not a stimulant, but that in all cases in which its influence upon the functions of the healthy body has been determined, *it has been found to lessen output and to be a narcotic* We *know* that the narcotic influence of Alcohol is exerted earliest and most upon the latest acquired and most highly endowed cerebral functions, and it has been demonstrated in the laboratory that this narcotic influence results from doses universally recognised as "moderate," and therefore we are as fully justified in speaking definitely upon the impairing effects upon human life of moderate doses of Alcohol as we are upon the value of food, of fresh air, or of exercise—facts upon which the whole of us feel bound to speak with no uncertain voice.

Some Lessons of the World-War in Medicine and Surgery from the German Viewpoint.

By WILLIAM SEAMAN BAINBRIDGE,

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THE following is an extract from a paper in the *Military Surgeon*, October 1921

The present purpose is to review the work done by the Germans during the four years of world-wide clinic

PROGRESS OF GERMAN SURGERY

Noteworthy facts in the progress of German surgery incident to the World-War are discussed in the following under five headings, which show at a glance what the war taught Germany about wound treatment

I Improved control of wound tetanus
II Introduction of deep antisepsis
III Institution of a uniform successful treatment of gunshot fractures
IV Adoption of active surgical measures in gunshot wounds of (*a*) the skull and (*b*) the abdomen
V Improved vascular surgery

In base hospitals situated at a distance from the front, the effects of curative serum inoculation were found to be greatly superior to results obtained in peace practice. This is probably explained by the timely employment of the serum in large doses and in a more appropriate way (intravenous or intraspinal administration)

One of the lessons learned by Germany in the war concerns an advance in the early recognition of the incipient symptoms of tetanus The first step in advance was the discovery of local tetanus as the earliest sign of the disease Observers learned to interpret the primary manifestations of general poisoning in this infection as an increased irritability of the central nervous system, with the resulting disturbances of the delicate and complicated reflex movements

Gas gangrene—This dreaded wound infection was combated by the Germans by free incision and drainage, antiseptic agents, Bier's hyperæmia, and towards the end of the war by means of a polyvalent antibacterial and antitoxic immunity serum, directed primarily against bacterial growth, but also against the effect of bacterial toxins This serum was administered as a prophylactic measure and also as a curative agent, in the form of early repeated injections

DEEP ANTISEPSIS

This salient achievement of German war experience introduced by R. Klapp, is based on early wound excision in combination with the strongly disinfecting action of the higher homologues of the hydro-quinine series, which in contradistinction to other antiseptic agents cause no serious tissue damage. As a very powerful disinfectant, readily tolerated by the tissues, the Germans used a preparation (isoctyl hydrocuprein) named Vuzin, after Vouziers a small town in northern France The method of deep antisepsis is carried out by uniformly injecting all tissues after the wound has been excised with a solution of Vuzin, 1 5000 For days afterwards the solution leaves the wound through a retrograde lymph flow, and the emigration of leucocytes is diminished, but the curative effect of deep antisepsis is essentially credited to the strong disinfecting power of the remedy

GUNSHOT FRACTURES

Prophylactic tetanus-antitoxin injections were given with excellent results in the dressing stations to all soldiers who arrived with badly infected fractures The second measure of the Germans against wound infection consisted in *immobilization* of the gunshot fracture The object was to aid in the limitation of the spreading of infection

The Germans constructed many ingenious extension splints, but it was found that even the very best of these could not compete in their judgment with good plaster apparatus in the securing of absolute immobilization of fractured limbs

Extension combined with semiflexion was found to be the most appropriate mode of treatment for fractures of the thigh

Wounds of the knee-joint were systematically treated in many German field hospitals with Vuzin, a quinine derivative, and according to the observations of Stieda, fewer failures were noted in the sanitary stations near the front under Vuzin treatment of joint injuries than under routine employment of carbolic acid or camphorated phenol, which requires more accurate and permanent supervision

Transplantation of fat tissue in joint operations, for the restoration or preservation of movements (first used by Murphy in 1902), was adopted by Lexer about ten years ago and utilized in war surgery with very gratifying results In those particular areas where it is exposed to pressure and strain in movements of the joint, the transplanted fat tissue becomes apparently transformed into a strong connective-tissue splint which helps to preserve a movable articulation The fat is usually taken from the anterior, outer, or posterior surface of the thigh, sometimes from the lower abdominal region The procedure is reserved for the treatment of ankylosis after gunshot wounds of the knee-joint, in those cases where no large portions of the articular ends have been splintered and removed after suppuration At the end of joint suppurations, fat transplantation should not be performed until at least six months have passed without re-appearance of fistulas

GUNSHOT WOUNDS OF THE SKULL AND BRAIN

Primary complete closure of skull wounds, in fact of all gunshot injuries, was advocated by Barany, on the basis of twelve extremely serious cases which were cured by means of this method In six cases of severe skull-splinter injuries, in highly infectious territory, Hische primarily covered the dural defect with fascia, after excision of all infected tissue, and obtained an uninterrupted recovery in four cases The procedure is recommended as re-establishing physiological conditions

though my preference is for the coil with the mercury interrupter. An old seasoned tube is desired. I do not use therapeutic tubes for radiographic work. A milliameter and a Benoist penetrometer are constantly used. The milliamperage in the tube circuit is from three-fourths to one milliampere. The distance of the anticathode from the skin varies from six to ten inches in superficial cases, and from ten to sixteen inches in deep cases. The duration of single exposures varies from ten to twenty minutes. No screens or filters have been used except to protect parts not intended to be exposed. In some of the worst cases methylene blue, combined with strychnin and arsenic, has been given internally, as recommended by Dr. Jacobi, and I think with benefit.

From a review of all the cases it is evident that practically all the cancers commencing on the skin surface are curable in their early stages by the Roentgen ray. Much benefit can be expected even in the advanced stages from the *x*-ray treatment. Cancers on mucous membranes and primary cancers of the mammary glands are to be excepted.

Of the recurrent growths that have come under my observation the recurrences after *x*-ray treatment have been as superficial as the original growths, whereas the recurrences after pastes and surgical methods were deeper and of more active malignancy.

In conclusion, one can not but be impressed with the profound importance and necessity of the prompt recognition and treatment of pre-cancerous and cancerous conditions. In their early stages they can practically all be completely and permanently eradicated by the influence of the ray in a simple, short and painless manner without leaving a scar and without any danger to the individual.

The cause of cancer is unknown, and consequently its prevention is impossible. To check the increasing ravages of this dreaded disease the only hope lies in its early recognition and prompt destruction. This latter can be accomplished in cancers originating on the skin, which constitutes so large a proportion of them all, by as sure a specific as there is in the range of therapeutics and that specific is the Roentgen ray.

Clinical Notes

SOME MODIFICATIONS OF THE TECHNIC OF THE OPSONIC INDEX TESTS

A PRELIMINARY REPORT *

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It is generally conceded that even if the opsonic test is eventually proved to be of great value as a diagnostic aid and as a guide to therapeusis, its somewhat tedious and exacting technic restricts its use to those who are especially trained in laboratory work, or to those who have assistants so trained. I have recognized the necessity of simplifying, if possible, this technic, thus rendering it more useful to the investigator, even if it is not made so that the average clinician can use it.

Wright has held the opinion that the leucocytes from one individual are equally as good phagocytes as those from any other person. This may be true. But it rather looks reasonable to suppose that the white blood corpuscles might be influenced by blood conditions, as, for instance, an acute toxemia, and hence would not functionate in a normal manner. At any rate, the mixing of blood serum with washed corpuscles often very noticeably alters the normal relation of the number of corpuscles to the amount of serum.

CORPUSCLES AND SERUM FROM SAME INDIVIDUAL

The thought suggested itself to me that if there could be added to the blood some substance which would prevent the clotting of the blood and which would not interfere with the phagocytic action of the leucocytes, or the sensitizing influence of the opsonin, the opsonic index of a blood could be obtained by using the serum and corpuscles both from the same blood and in their normal relation. This would reduce very materially the amount of labor connected with the tests and would also eliminate one or two of the possible sources of error. Plasma and corpuscles would be used then instead of serum and corpuscles which are used according to Wright's method.

In casting about for chemicals which prevent coagulation there have been considered the following: Hirudin, sodium citrate, sodium oxalate, magnesium sulphate and sodium fluorid. Not all of these have been tried. Sodium citrate, sodium oxalate and hirudin, it has been shown, can be used for this purpose. In the comparatively few tests made it is believed that a mixture of equal parts of the isotonic solutions of sodium citrate and sodium oxalate gives the best results. It has been proved that these salts, used in the proportion of one part of salt solution to four or five parts of blood, prevent the clotting of the blood. Accurate dilutions were made in each case by means of small pipettes made in the proper size and marked off in the desired divisions. The diluted blood was then placed in small vials, which were tightly fitted with rubber corks and which had previously been sterilized. The tests were made as soon as possible after drawing the blood.

Further work only will prove or disprove the practicability of this method. It has been found that these salts successfully prevent coagulation, that they do not interfere a great deal with the phagocytosis (just how little the interference is, has not been satisfactorily ascertained), and that blood so prepared contains a sufficient number of leucocytes in the smears on the slides. As it is necessary to have a large number of observations on this point to establish its value, if it has such it is hoped that other investigators will test the suggestion.

LABELING THE BLOOD CAPSULES

The blood-collecting capsules are labeled by attaching a small piece of adhesive plaster on which is written the name of the person from whom the blood was taken. It is rather difficult to write legibly with a glass marking pencil on the small glass tube, and there is even a great likelihood that what is written will be partially or completely erased by the handling. This method the author has also found very handy for labeling the small capsules which are used by Wright.

BACTERIA EMULSIONS

All who have been making the opsonic tests have experienced some difficulty with the emulsions of bacteria. The tubercle bacilli are perhaps the most troublesome. Bacteria settle out of a salt solution quite readily and the tubercle bacilli agglutinate very readily so that

* From the Physiological Laboratory of St. Louis University.
* The preliminary report is published now because I shall be unable to carry on much laboratory work for a few months.

slight febrile reactions followed, accompanied by slight focal reactions, as seen by swelling up and softening of the leprous lesions and later rapid retrogression and absorption of the nodules

Intravenously, there is no pain, but sometimes fibrous adhesions and phlebitis at the seat of the injection followed This might be counteracted by adding 2 per cent. solution of sodium citrate to the injection

The treatment should be continued for a year and a half or longer, and a watch should be kept for the possibility of relapse on account of the long incubation period which might supervene on an apparent cure Sodium salts of the unsaturated fatty acids or the oils were also used in the treatment, of these sodium morrhuate from the cod-liver oil, sodium soyate from the oil of soya bean were much used. Both of these were found effective. Hence, unsaturated fatty acid products are to be credited with the beneficial action against acid-fast bacilli such as leprosy, and tubercule bacilli and the chaulmoogra oil shows no specification Sodium morrhuate and sodium soyate injections are less painful and irritating and can be given subcutaneously or intravenously with safety and hence are very convenient for out-patient and leper asylum work. The reactions after injections were mild and also improvement in the general health set in rapidly Stationary cases were treated with sodium gynocardate and morrhuate alternately with beneficial results The longer the period of treatment, the larger was the number of cases showing improvement *e g* after six to twelve months' treatment 100 per cent were improved and over 50 per cent much improved, and there was less likelihood of relapse under subsequent intermittent treatment. Ethyl esters of the unsaturated fatty acids of chaulmoogra and other oils for intramuscular and intravenous injections are giving promising results in Calcutta and Honolulu—*The Medical Press* June 15 1921

Keeping qualities of market samples of Neoarsphenamine while in Ampoules

By GEORGE B ROTH, M.D,

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COMPARATIVELY little is known concerning the keeping qualities of market samples of the newer organic arsenicals, arsphenamine and neoarsphenamine

Both compounds are regarded as very unstable substances when exposed to the air, and for this reason they are prepared for the market in sealed glass containers from which the air has been excluded either by production of a vacuum or by displacement of the air with a non-oxidizing gas such as carbon dioxide, nitrogen, or hydrogen

During the last three years, many lots of commercial arsphenamine and neoarsphenamine, comprising samples from practically every domestic manufacturer, were submitted to the Hygienic Laboratory for re-examination, and in no instance was a lot of arsphenamine encountered which could be definitely said to have deteriorated. However, a number of lots of neoarsphenamine were found which showed deterioration since their first examination

Many preparations of neoarsphenamine were encountered in which striking changes were noticed in many of their physico-chemical properties, such as changes in color, solubility, mobility in ampoule, and odor No instances of such changes were found in any of the arsphenamines examined

It thus appeared that arsphenamine was the more stable of the two compounds and that further investigation of the keeping qualities of neoarsphenamine was especially imperative A more extensive investigation was therefore made, and the results are reported herein.

The present report deals almost wholly with products from four of the largest domestic manufacturers, and the age of the preparations in no case was over three years The examination included tests for toxicity, made according to the official method, and observations on changes in solubility, mobility in ampoule, color and odor

The changes in solubility were determined by making up a 4 per cent solution of the drug in distilled water The drug was considered incompletely soluble if, when made up in the above manner, a clear solution was not effected within 10 minutes It was considered that no increase in toxicity had occurred unless more than 40 per cent of the animals reacted differently from the manner in which they reacted at the first examination For example, if a sample killed 1 out of 5 rats at a certain dosage at first examination, and on second examination killed 2 out of 5 at the same dosage, no difference in toxicity was recorded If, however, 3 or more died out of 5 on second examination, the preparation was considered to be more toxic than at first examination

The following conclusions were arrived at —

1 Commercial neoarsphenamine is a relatively unstable substance in ampoule.

2 Age, heat, and incomplete drying of the substance before ampouling are factors in causing deterioration in commercial neoarsphenamine

3 The deterioration of neoarsphenamine is shown by changes in color, mobility in ampoule, toxicity, solubility, and odor

4 The results of the experiments suggest (*a*) that inasmuch as neoarsphenamine may deteriorate within a short time after manufacture, and in order to secure further data on its keeping properties the date of manufacture might be given on the label of all lots issued (*b*) that neoarsphenamine should be kept under conditions similar to those required for vaccines, that is, at ice-box temperature.

Throughout this paper room temperature refers to temperatures ranging from 20° to 29° centigrade (inclusive), and storeroom temperature to variations of from 18° to 20° centigrade (inclusive) All storeroom samples were kept in the dark in closed packages

The official observation period of seven days was used in obtaining the results of the toxicity tests referred to above. The above is an extract from the *Public Health Reports* Vol 36, October 14, 1921, No 41

Immunity in Children to Tuberculosis

OBSERVATIONS and the clinical results in children during seven years, as well as the experimental work in animals, lead de Luca to the conviction that Besredka's recent opinion regarding immunity is true. To produce absolute active immunity in tuberculosis de Luca has employed in children crude cod-liver oil or iodin compounds in large doses These substances act as a stimulant and intensify the biliary secretion, which frequently produces erosion or desquamation of the intestinal mucous membrane and thus favors the absorption of the antigen In these conditions the intestinal walls become a local source of antibody production From this localized laboratory of antibody, of course, its distribution to the circulation probably takes place and the complete cure of the patient must await a sufficient concentration of these antibodies in the organism The first active immunity for oral route against tuberculosis in children has been practised in New South Wales by de Luca seven years ago The first children vaccinated were his two daughters From that date till to-day, in Australia and in Italy (during the war, 1915–1919), 119 children from 1 to 12 years of age have received tubercle vaccine as treatment and to establish absolute immunity All children before the treatment have suffered from mild tuberculous infection enlarged glands asthma, sinusitis, synovitis, tubercular abscess, etc., and nearly all have recovered from the local lesion after three or four months' treatment and were protected against further infection. No children treated have become affected with phthisis or have died from tubercular disease, all the children were followed till January,

CASE OF TEMPORARY INSANITY FOLLOWING THE INGESTION OF LARGE QUANTITIES OF WHISKY AND CAFFEIN

E. SHERMAN CLOUTING, M. D.
Examiner of the Insane Philadelphia General Hospital Physician to Germantown Almshouse
GERMANTOWN, PA.

Mr. J. S. L., aged 52, came under my care, Aug. 19, 1907, with a diagnosis of insanity, which then existed.

Physical Examination.—A tall, well nourished man, station good, pupils equal and of normal reflex, patellar reflexes slightly exaggerated, tremor of the tongue and hands, tongue heavily furred, temperature normal, heart and lungs normal, urine acid, sp. gr. 1.025, no sugar and no albumin.

Personal History.—Is married, father of three children, has had all the diseases of childhood, no venereal history. An immoderate user of alcohol at indifferent times, has been in institutions twice for so-called insanity. It is well to say here that he committed himself once to get away from liquor, but went to his business every day from the asylum, and was committed once for alcoholism by two physicians.

Mental Examination.—The patient is delusional, believes his wife is murdered, can not be reasoned out of this, thinks he is a great man, and that he is the only one who has the ability to talk with God by shuffling his feet, through which members he receives the messages, believes he is master of mental telepathy, thinks he can talk to any one at any distance by this method. His delusions, which apparently arise from the illusions and hallucinations of sight and hearing which seem rapid and continuous, are chiefly of a religious nature. He is suspicious and distrustful, his chain of communication through unseen agencies, and his anger at being doubted lend color to monomania. He is very voluble of speech, which is clear and distinct.

As his mental condition cleared up so quickly on his two previous commitments, in fact within a few days, the question at once arises whether this man was ever insane in the true meaning of the word, or if he simply had a confusional condition arising from over-stimulation. A careful examination of the following account of himself will do much to clear up some difficult points in his case, which is unusual from the apparent gravity of his mental condition, also from the fact of the short duration of his symptoms, and that he knew all the time he was not himself, and that he was under the control of something which he could not understand. He gave a clear history of consuming 2½ quarts of Scotch whisky in four days. He was not drunk at any time, but realized that he must stop, which he did at once, and began taking caffein as a bracer, so that in a short time he had taken the best part of two bottles and soon began to get happy. I now give the exact story of himself as he remembers it.

Previous to this time I had not used liquor for two years, but I had reached a state where I could not go any further. I had a severe neuralgia and began by drinking whisky moderately and drank harder and harder, so that in four days I had taken about 2½ quarts of Scotch whisky and stopped short, but I felt the reaction, and began taking caffein as a bracer and soon commenced to feel good. So I took a trolley ride to Willow Grove and I commenced to hear peculiar noises in the bumping of the wheels, which soon began to say things. This interested me and I wondered what it meant. I asked the motorman if he also heard these noises and of course, he said he did not. I stayed for the concert at Willow Grove, and had this same experience coming back, only the noises were more marked and the forward motor began talking to the backward one, telling each other to 'hold up.' The motors held a long conversation. They talked about their work and they would say 'Let up,' "let her go," etc. I now believed there was something more in electricity than most people knew. I thought it contained peculiar spirits. After I got off the car, I heard them still talking as far as my ear could reach. I then went home and took more caffein and thought I would take another ride, as I enjoyed this one so much. It was raining, and I had the same experience in this car also. Coming home I bought more caffein. This night I had vague ideas that I could talk to others at a distance. I was then approaching such a condition that I could hear words in running water, and while the words were there, I could not talk for any length of time as I lost the trend of conversation, and then I tried the gas and got the same result there. Now I began to get messages through the air, from the locomotive whistle for instance, and more so from its puffing. I slept well that night, and the next day went to Willow Grove again and found that each individual motor had a different tale to tell, and this was the first day that I was able to hold a distinct conversation with them. My whole idea then was to test out the motors. Some of the motors would be profane, some vulgar, and some very religious, and I talked with these motors that day and I got good results and their advice was very good. Even when the motors would talk in a crude manner, their suggestions were good.

Early in the evening I got into communication with people at a distance. This was brought about from the fact of my trying to get into communication with my wife, who was away, and as I did not know where she was, I could not reach her, but I got into communication with a woman in New York whom I did not know, but who knew my wife and she told me my wife was not in my circle. She told me she was at the Engleside, at Beach Haven, and she told me a great deal more. I was receiving these messages through my feet, and she told me I could call up anyone. So I then got into communication with a strange woman in Boston, who told me I could talk with my sister in Brooklyn, and I talked with her for about two hours when she shut me off. I heard no distinct voices in that conversation, but my power being so great, I thought I would try other things now. Then I felt that I could talk to the departed. I tried it and found that I soon got in communication with my father who died a year ago. This was extremely exhilarating and delightful. He told me he was very happy, and made many suggestions, and asked me to collect all his old books and papers and give them to a certain library.

I was in a state of ecstasy, never felt so well in all my life. I felt as if I had become very powerful from a psychic standpoint. I now talked with my mother, and thought she had returned to earth again. She told me that Heaven was divided and subdivided, and soon space became annihilated. She told me where I could find her and at last, becoming very tired I felt that as this power might leave me, I would write out the general results of the evening. I did not feel excited, but took a bath and went to bed.

I slept from 3.30 a. m. until 9 a. m., and took more caffein on awakening and I thought I would try my powers again as soon as I awoke which I did. I shuffled my feet and asked if anyone wanted me, and found I was in communication with the woman in New York, who put me in communication with my wife, who told me she would be home at 8 o'clock that night, that she would see me, and that I should go to Willow Grove again that afternoon. I now took more caffein. I got my breakfast on Chelten avenue and took the number of the cars I rode in, and made note of the different motors and found I could talk with each individual motor and the motors talked back and forth to me and about me and told me all about my previous life. All day long at Willow Grove I questioned whether this thing could be or not. I then began to get emotional and would shed tears very easily. I had no fears whatever. I went out into the old picnic grounds and shuffled my feet and asked for advice and it came from God saying to me, "Go home at once." There was no distinct sound in these voices but after drinking lots of black coffee I started for home and as soon as I got into the car the motor began to talk to me again. So I made up my mind that I would take my wife to hear this curious thing on the following day.

MATERIA MEDICA AND PHARMACY FOR MEDICAL STUDENTS, WITH AN APPENDIX ON INCOMPATIBILITY —By REGINALD R. BENNETT, B SC (Lond), F I C Published by H K Lewis and Co, Ltd Price 7*s* 6*d*

THIS is the fourth edition of this little book, which has been written by the author with the object of presenting to the students a concise and accurate description of drugs and preparations in the pharmacopœia, and in this it succeeds admirably

Drugs have been arranged according to their pharmacological actions and doses are given both by metric and empirical systems The Posological table at the end is very complete and a table has been attached giving the standard strengths of potent drugs and preparations There are very useful hints regarding general principles of incompatibility of drugs in the appendix We are confident the book will be useful to the students

MATERIA MEDICA AND THERAPEUTICS —By J MITCHELL BRUCE, C V O, M A, LL D (Aberd), M D, F R C P (Lond), and WALTER J DILLING, M B, ch B (Aberd)

THE fact that, since 1915, this book has been reprinted three times and three new editions have come out speaks in itself for the popularity and usefulness of this book

The present edition has been thoroughly revised and brought up to date and sections on Natural Mineral Waters and Hydrotherapy have been added We have nothing but praise for this book and strongly recommend it to the students as well as practitioners

THE ORGANS OF INTERNAL SECRETION, THEIR DISEASES AND THERAPEUTIC APPLICATION — By FRO GEIKIE COBB, M D, M R C S Third edition London Bailliere, Tindall and Cox, 1921 Price 10*s* 6*d* net

THE first edition of this admirable little book was founded upon articles which appeared in the *Medical Press and Circular* during 1916, the object being to lay before the busy practitioner the important points in the study of the Endocrine Glands

The present edition has been considerably altered A chapter has been inserted on the Physiology of the Internal Secretions Attention is rightly drawn to the wider conception of the expression "Internal Secretion," meaning all organs whether possessing a duct or not, which exert a specific influence on the blood circulating through them The chapter then deals in a general way with the physiology and relationship of the different endocrine glands and contains all the information likely to be required by the general practitioner

The vexed question of the relationship of the Thyroid and Para-thyroid glands is discussed somewhat fully, the author leaves us in doubt as to which of the rival theories be favoured

Chapter XIV discusses some practical points in Hormone-therapy, more especially the rôle of Organo-therapy in the treatment of backward children

Finally, we have no hesitation in saying that this little book is thoroughly up to date and should be in the hands of every practising physician

TRAINING AND HOW TO KEEP ALWAYS FIT —By CHARLES W CATHCART, C B E, M A, M B (Edin), F R C S, Consulting Surgeon, Royal Infirmary, Edinburgh E and S Livingstone, 16 and 17, Teviot Place, Edinburgh Price 2*s* net

THIS is an excellent little book which is written by one who has a thorough knowledge of the subject Far too little attention is paid in most of the Indian colleges and schools to the subject of physical fitness, and it is only by books of this kind that interest in the subject can be aroused

Almost every word of the book is just as applicable to Indian conditions as to European The information contained in it should be found in every text-book of Physiology, but, unfortunately, up till now physical culture has not taken the place it deserves in the medical curriculum, and so a book like this is a necessary supplement to the regular routine

ANNUAL REPORTS.

FIFTY-NINTH ANNUAL REPORT OF THE GOVERNMENT CINCHONA PLANTATIONS AND FACTORY IN BENGAL FOR THE YEAR 1920-21

General—The plantations are still suffering from the effects of the war drain, but the results are not quite so bad as superficially they seem to be. In 1918, when things were at their worst, it was seen that the uprooting of immature trees for the sake of an immediate harvest could not go beyond a certain limit. At the same time, in view of the probability of the world's supply of cinchona bark—except for the comparatively trivial amount of Indian-grown bark and the small produce of British estates in Java—being controlled by a few Dutch firms, —a control that is now in operation—it was most desirable that some means should be found of allowing a reasonable amount of bark to be harvested, while yet giving the plantations a chance ultimately to yield an approximately full quantum For very many years it has been the practice entirely to uproot cinchona trees for harvest. This method has the advantage of collecting the bark of the root as well as that of the stems and branches, and as the amount of root bark, which is slightly richer in alkaloid than the stem and branch bark, forms from a third to nearly a half of the total bark yielded by an uprooted tree, the immediate yield of bark is considerable. The method has the disadvantage of finishing the tree, but provided it has been possible to allow the tree to reach a commercially exploitable maturity, the disadvantage is more apparent than real

In the early seventies of last century "coppicing" was tried on Mungpoo plantation In "coppicing" only the stems and branches are cut, the root being left undisturbed If the process is successful, new stems spring up from the stumps, and after some years the new growth can be cut, and the roots again left

A study of the kidney of this animal showed the presence of numerous plasma-staining bodies in the lumen and in the cytoplasm It was rare to find any with a nucleus, but occasionally one would be found in the lumen The kidney cells were apparently engulfing these bodies In some places they filled the cell The effect on the kidney cells was profound The nuclei were not as numerous and lacked distinctness when compared with normal cells The cell walls between adjacent cells were largely absent and numerous vacuoles were present in the cytoplasm The degeneration of the red blood corpuscles begins in the corpora adiposa and is completed in the kidney

The animal was normal so far as observed and was kept for several weeks with many others in an aquarium before being killed It is impossible to be sure that the kidney cells would have succeeded in their task of removing all of these blood corpuscles

That different cells of the body may assume this phagocytic rôle is not unknown, but so far as I have been able to consult the literature, I find it unusual for the kidney cells to assume this rôle and that it has not been previously reported for the frog

PERIPHERAL OBLITERATIVE ENDARTERITIS *

CARROLL W ALLEN, M D
NEW ORLEANS

This condition, while not common, is yet met with sufficient frequency to warrant a careful study of the cases coming under observation It generally attacks men in the most active period of their life, between the ages of 25 and 40 No cases, so far as I have been able to find in the literature, have been reported in women Several cases have been studied with sufficient thoroughness to furnish a good illustration of the pathology

CASE 1.—Man, aged 38, single, a carpenter, has had all the diseases of childhood. He has also had gonorrhea, he drinks alcoholics moderately, but has been a cigarette "fiend" for twenty years

History.—April, 1905, the toes on the left foot began to burn, became red and when he walked they cramped and drew up This condition continued until about November When he was at rest he did not suffer, but the burning commenced immediately on moving During November an ulcer appeared on the plantar surface of the fourth toe at its base, and a little later a red blotch appeared on the dorsum of the foot Shooting pains then commenced running from the leg into the foot. These were very severe, at first they occurred only during movement, but later they were constant day and night, preventing sleep and any kind of rest The patient became emaciated to an extreme degree About January, 1906, dry gangrene occurred in the fourth toe, and almost at the same time in the great toe. These toes were amputated, the wound at the base of the great toe refused to heal, and an ulcer formed About six weeks later this was dissected out, but the wound still refused to heal, the only effect of the operation being to lessen the pain, which now became bearable, and the man was able to get some sleep and to recover some of his former good physique After a short period the pains began to increase in severity until he was again forced to seek surgical relief, and entered the hospital Feb 17, 1907 A thorough examination, including urinalysis, revealed nothing of interest, except in the arteries of the affected limb, the pulse in the dorsalis pedis and posterior tibial not being perceptible to the finger in the other limb both could be felt and were apparently normal

Operation.—Feb 18, 1907, under general anesthesia, Dr Matas did a modified Lisfranc operation to test the condition of the tissues at this point, the patient not agreeing to a higher amputation Very few vessels were encountered which required ligation, although the tissues assumed a healthy pink when the constrictor was removed The wound was closed with a few silkworm gut sutures and an appropriate dressing applied The patient was rudely awakened from the postanesthetic sleep by violent lightning like pains darting down the limb into the wound, these continued with short intermission throughout the day, subsiding by night, except when the patient attempted to go to sleep, when they would return with increased severity These pains banished sleep for four days and nights, then they began to subside and short naps were possible Some elevation of temperature (103 F.) occurred on the second day On the third day when the wound was dressed it was found infected, this condition cleared up under moist antiseptic dressings The temperature dropped to normal by the seventh day and the wound healed by the sixteenth day The shooting pains in his limb persisted up to a short time before his leaving the hospital, gradually growing less severe

Result.—He left the hospital well, March 22, and was last seen in the latter part of September, 1907, and reported no further trouble

M Panas,[1] Paris, reported one case The patient, aged 35, of nervous temperament (with gouty father and nervous mother), had lancinating pains in the upper extremity, which ceased after three months, to occur in the lower extremity Several red spots appeared on the left leg, followed by gangrene of the left toes, which progressed to adjacent parts of the sole of the foot, requiring amputation at the middle of the leg, as all the arteries of the foot seemed obliterated After amputation, the pain continued unabated in the stump and occasionally on the other side Many remedies were tried without avail until sodium salicylate was used, which put an end to the suffering Examination of the amputated member showed, in addition to vascular lesions, alterations in many fibers of the anterior tibial nerve

M A Laveran,[2] Paris reported the case of a man, aged 26, who contracted malaria in Madagascar in 1884 He was very ill for several weeks He had dysentery and malaria in Tonkin in 1889, and was ill for several months In 1890, the first symptoms of phlebitis of the left leg occurred, followed by endarteritis, there was some albuminuria He suffered severe pain for months and was unable to put the limb on the floor Amputation below the knee was done in 1892 The same trouble occurred on the opposite side, requiring amputation in 1893

ETIOLOGY

The etiology of this condition is not clear It is possible that there may be predisposing causes in some cases, such as an underlying constitutional taint, syphilitic or gouty, preparing the vessels to respond to irritating causes Exposure to cold may also create a predisposition The long-continued intoxication with any substance capable of producing arterial irritation or vasoconstriction may produce the condition such substances are alcohol, tobacco, lead, uric acid, acquired syphilis or renal disease should also be considered

In the case I report, it is highly probable that the excessive use of tobacco for many years was an active factor in producing the condition

Chronic malarial infection may indirectly become a factor, malaria and Reynaud's disease are not infrequently associated In one of the cases reported from the French press, the long-continued and repeated at-

* A contribution from the surgical clinic of Tulane University

1 Endartérite oblitérante Bull de l Acad de Méd 1894
2. Observ d endartérite oblit avec gangrène des extrém inf Bull de l Acad de Méd 1894

and the rest of other products Over 4,600 lbs of *Cinchona succirubra* bark were also sold. Of the quinine sulphate 14,375 lbs were sold in the form of 'treatments" as compared with 10,820 lbs sold during 1919-20 Quinine sulphate in powder form was sold at Rs 33 to Rs 35 per lb according to quantities purchased at one time, cinchona febrifuge Rs 7 to Rs 8 per lb Quinine sulphate in tablet form in "treatments" was sold at the rate of Rs 43 12 per lb

Expenditure and Receipts—The total expenditure on both plantations and factory was Rs 3,22,311-5-1 The gross receipts for sale of all products through the agency of the Juvenile Jail *plus* miscellaneous receipts obtained by the department direct were Rs 13,63,594-9, of which Rs 4,36,630-7 were credit and Rs 9,26,964-2 cash Of the latter Rs 2,79,105-7-8, representing half the revenue derived from the sale of 14,375 lbs of quinine sulphate in the form of "treatments" have been allocated to the Prisons Department, to meet charges in connection with the conversion of purified quinine into tablets to be sold in "treatment' form On the assumption that the sum of Rs 2,79,105-7-8 little more than covers—as it is intended to do—the cost of conversion, the cost of converting 14,375 lbs of purified quinine into "treatments" would seem to be Rs 19 4 per lb, or more than twice as much the total cost of manufacture of the purified quinine. Deducting this charge for conversion of the 14,375 lbs into 'treatments," the net revenue is Rs 10,84 489-1-4 and the net surplus Rs 7,62,177-12-3

Quinine Reserve and Stock Account—The provincial quinine reserve on the 31st March, 1921, was 39,832 lbs The reserve is gradually lessening Stock of all sorts at the end of the year, valued on a conservative basis, was worth Rs 13,11,392-2, of which quinine sulphate, worth at least Rs 11,94,956, formed the chief item.

Block Account—Cinchona trees are valued at Rs 18,46,095, timber and fuel trees at Rs 2,77,203, buildings at Rs 1,24,811 and machinery at Rs 70,680, a total of Rs 23,18,790

Profit and Loss Valuation—The valuation at the end of 1920-21 shows an increase of Rs 7,08,914-11-11

ADDENDUM

Ipecacuanha—The stock of plants was increased by 6,400 and now stands at 82 400 plants Experiments have been made to find out the best method of preserving seed and hastening germination The period of the latter is erratic, varying from one month to twelve months and about 30 per cent of the seed is sterile.

Digitalis—Two acres have been added to the area under this crop and a good crop of leaf is expected About 560 lbs of dried leaf was distributed to medical depots and dealers during the year

Belladonna—About a third of an acre was planted after filling in vacancies in last year's planting

PUBLIC HEALTH REPORT

THE following is an extract from the Madras Government Order dated the 26th January, 1921, on the report of the Sanitary Commissioner for 1919

Birth-rate—In every district the birth-rate is markedly below the quinquennial average.

Defective registration is the cause customarily assigned for this decline, and the fact that the birth-rate in many cases is exceeded by the death-rate supports this conjecture. No doubt the census of 1921 will provide data for determining the extent to which registration is at fault, but the Government consider that the Sanitary Commissioner should endeavour by intensive examination in selected areas in each district to arrive at some co-efficient of error, to ascertain why in some areas the birth-rate is twice that in others, and to decide to what extent, if at all, the statistical decline in birth-rate is real The Board of Revenue has expressed the opinion that the registration of vital statistics is less satisfactory in areas where it is compulsory than in areas to which compulsion has not been extended. The Sanitary Commissioner should be in a position to verify the accuracy of this view The correct registration of births is of more than academical interest, as it should constitute the foundation of the policy of local bodies in regard to vaccination and maternity relief The attention of all presidents of local boards and chairmen of municipal councils is drawn to the dubiousness of their birth-rate statistics, and the Government expect them to exercise particular vigilance in this branch of administration

Death-rate—Public health during 1919 was under all heads much better than in 1918 The death-rate in most districts was below the quinquennial average.

The Presidency average would have been more satisfactory but for the amazing increase in Malabar, South Kanara and Ganjam No cause is assigned in the report for the heavy mortality in these areas and special steps should have been taken to ascertain whether remediable causes exist

Another fact of widespread importance revealed by the mortality statistics is the very high rate prevailing generally among Muhammadans as compared with other communities The Sanitary Commissioner is requested to examine closely the reasons for this high mortality

Infantile mortality is a problem of growing public interest and one which local bodies could alleviate at relatively slight expense, if they would earnestly tackle it The statistics compiled in the Sanitary Commissioner's office deserve publicity, in order that the local bodies responsible may know where they stand

These statements do not reflect credit on local self-governments It is true that the ratio has fallen below that of 1918 in almost all areas, but in many it is still well above the quinquennial average and incompatible with enlightened administration It is of little use to recapitulate in general terms the causes assigned in the report for 1918 The Government require constructive proposals for bettering the conditions of infancy from each of the local bodies within whose jurisdiction the infant mortality exceeds the Presidency average.

In Madras City infant mortality fell from 360 7 in 1918 to 332 1 in 1919, but this is well above the quinquennial average of 302 1 Some improvement was effected under the Child Welfare Scheme undertaken by the Corporation towards the close of 1917 In the twelve months ending with September 30, 1919, 1,052 infants were tended under the scheme in the Triplicane centre, against 681 in the previous year The mortality among the infants so tended worked out at 276 8 Work under the scheme is expanding, and additional centres were opened in Washermanpet and Purasawakam It is clear that a much more comprehensive organisation is necessary, if Madras City is to redeem its reputation as one of the deadliest towns in the Presidency

Cholera—The number of deaths from cholera fell from 122,263 in 1918 to 93,262 in 1919, but this figure is 34,323 in excess of the mortality of 1917 Useful work was done by the eight provincial cholera parties which operated in the worst affected districts The Government await the Sanitary Commissioner's proposals for improving the working of these parties, but they cannot undertake to relieve local bodies of responsibility for this branch of public health administration, and they hope that no time will be lost in constituting Public Health Boards for each district with a view to co-ordinating and expanding the work of such statutory and voluntary agencies as exist or may be brought into being

Cholera prevention is not, however, likely to be effective unless closer attention is paid than hitherto to the history of each epidemic with a view to determine the areas most susceptible to infection and the periodicity of the disease within each such area The report *is silent* on this vital point, and until such data are collected and collated, the sanitary staff must blindly follow the epidemic instead of forestalling it. Such information is also needed before any programme worth having can be drawn up for the protection of drinking water in rural areas The Sanitary Commissioner and his deputies are requested to devote personal

that no one was to go from one child to another without thorough cleansing of the hands, and that no article was to be used for any two children without a sterilization between. There was not, however, vacant space enough to admit of thorough sterilization of the rooms, even if this had seemed advisable, nor was the force of nurses large enough so that we could dispense entirely with the services of the untrained women, and to the utter inability of these latter to understand the necessity of and carry out thorough cleanliness, in spite of strict instructions, is probably due the fact that between this time and December 16 the epidemic spread gradually to ten other babies, so that eventually all but one of the artificially-fed children were sick. No breast babies were infected, but one who was weaned during this period, owing to failure of the mother's milk, had a mild attack.

As soon as it became evident that there was a common infection efforts were made to discover the infective agent and its source. Stains were made of fresh smears from many of the stools, and the facilities of the Detroit Clinical Laboratory being placed at my disposal, Dr. Sill, the superintendent of the laboratory, and myself made careful studies of cultures from nine typical cases. In the cultures it soon developed that in six of them the predominating organism was a bacillus of rather varying form, producing a shiny and sticky growth on agar and forming rapidly an intense blue-green pigment. This pigment gave the chemical reactions of pyocyanin, and inasmuch as the predominating organism in the other three was a bacillus of the same morphologic characteristics, but without pigment formation, we should have been convinced at once that the *Bacillus pyocyaneus* was the cause of the infection, had it not been that in a number of the smears made from fresh feces the principal organism, except the colon bacillus, was what appeared to be a large, deep-staining coccus, usually occurring in pairs, and much time was spent in trying to isolate this from cultures. We found later, however, that our strain of pyocyaneus, grown on glucose agar, tended to assume this same coccus form, so that we felt justified in assuming that we were dealing with a pyocyaneus infection throughout.

Clinically, these cases presented no constant or characteristic features, except that of a very obstinate diarrhea, difficult to check and tending to recur on every effort to feed the babies during convalescence. The stools varied greatly in appearance. In the older babies they were often white, of about the consistency of thick cream, in the younger ones they were more often grass green or dark green, small, and occasionally but not constantly containing mucus. In two very severe and protracted cases, which finally recovered, mucus was constant and tinged with blood. Green stools were usually colored with bile pigment, but a number of stools showed around the edges what seemed a very typical coloring with pyocyanin. The cultures which proved to be the best pigment-producers came, however, with one exception, from perfectly white stools.

Fever was not the rule. It occurred in only ten out of thirty-seven cases, and did not go above 102.6 in any case. In two of the ten cases it was due, partly at least, to complicating otitis media, which subsided in one case without paracentesis. In the other case the fever disappeared after the operation. In two other cases the fever appeared during convalescence and seemed to be due to inanition.

A symptom common to many, especially of the smaller babies, was great abdominal distension. Two children showed temporarily quite decided edema, without nephritis. Vomiting was a symptom in only one case.

With most of the older and stronger children, as has been said, the disease was mild, but prone to relapse. In the younger ones movements were more frequent, though seldom very numerous, and prostration was greater. Emaciation was rapid in most of the prolonged cases, owing to inability to assimilate any food. Appetite was well retained by nearly all and thirst was quite marked.

There were nine deaths in all. Of these six were among the feeble infirmary babies already badly nourished, one of whom had also a gonorrheal ophthalmia. Of the other three, originally stronger, one died in convulsions attendant on an acute otitis media, one was a baby only 4 weeks old, and the other had a very prolonged and obstinate case with several relapses. Autopsies were held in four cases and no definite lesions were found anywhere, profound emaciation, with anemia of all the tissues, being the characteristics. The intestines showed a few hyperemic patches, but were mostly pale collapsed, and in no case ulcerated. Cultures from the heart's blood and spleen were sterile. The findings in all four cases were practically those of death from starvation.

The treatment used varied according to the age of the child and the severity of the case. The mild cases among the older children did well on calomel and starvation for a day, followed by dilute boiled skim milk. All the children had calomel at the start and occasional doses of castor oil later, and all the severe cases had colon irrigations twice daily, usually with salt solution though tannin was used with good results in the case of the two children who passed a good deal of mucus. Bismuth was used when stools were very frequent and opium occasionally, as seemed necessary.

Feeding of the smaller babies after the initial starvation was very difficult and unsatisfactory. The very sick ones took nothing well, but did better on small amounts of dextrinized meal than on anything else, with some of them this had to be continued for several weeks, sometimes alternating with broth. Sour skim milk prepared with pure cultures of the lactic acid bacillus was not a success with any, nor was albumin water or any of the dried milk preparations well borne, except that some took malted milk well when convalescence was established. Barley gruel did not do so well as the dextrinized meal.

Diarrhea from infection with the *Bacillus pyocyaneus* is by no means unknown, and isolated cases and small epidemics have been reported by Escherich, Nobécourt, Kosse, Lesage, Thiercelin, Meunier and others. Most of the reported cases, however, differ from those I have described in that sudden high fever and other signs of severe toxemia have been present, although general infection by the *B. pyocyaneus* has not been observed. The pistach-green color of pyocyanin seems to have been more common in the stools in these other cases than in mine.

The *B. pyocyaneus* is not found normally in the child's stool, but is found occasionally on the skin and in the feces of the healthy adult, as well as in certain suppurative lesions. I have been wholly unable to discover where it may have come from in these cases.

Conservancy is still defective It is unsatisfactory to note that public latrine accommodation is insufficient in no less than 22 municipalities, including some of the most important towns in the Presidency, and that the number of insanitary latrines in use is large Nearly two-thirds of the total number of houses in district municipalities are unprovided with private latrines, and the prevailing methods of disposing of nightsoil and sullage are crude, wasteful and offensive Sewage farms are maintained by 13 municipalities, but little interest is shown in their exploitation The Government desire that the Sanitary Commissioner and his deputies should in future devote more attention to the economic disposal of the waste products of conservancy and assist local bodies in devising methods which are more profitable and more consistent with hygiene. The failure of local bodies to set aside a depreciation reserve for the renewal of conservancy plant is likely to land them in serious difficulties

The report of the Sanitary Engineer shows good progress in the investigation of drainage schemes, and it is not his fault that only one scheme has been carried through The Government hope that the general public will awaken to the importance of proper drainage and insist on an acceleration of the programme of works to be executed Four type-designs have been approved by the Sanitary Board in the year under report. In future reports the Government require information as to the number of buildings and installations actually constructed on type-designs and a note on their success or failure.

The reluctance of professional men to accept service under municipal councils is a menace to the future of sanitation in this Presidency Of the two appointments sanctioned for first-class health officers one is at present vacant, and of the 14 posts sanctioned for second-class health officers only three are filled. No candidates have appeared for training as health officers for the past three years Even men qualified as sanitary inspectors avoid service under local bodies, if they can get other employment

The year's report does not reveal any marked advance in policy or efficiency, but more could hardly be expected considering that in the first eight months of the year there were no less than five changes in the personnel of the Sanitary Commissionership, and that during the last four months the duties of the Sanitary Commissioner were discharged by the Surgeon-General himself in addition to his full-time duties as Surgeon-General The Government are pleased to note that during the short term at his disposal Surgeon-General G G Giffard was able to carry out personal inspection in 17 of the most important centres of the Presidency

Correspondence.

To the Editor of THE INDIAN MEDICAL GAZETTE.

SIR,—Regarding the formol-gel test for kala-azar, I take it that the specificity of the reaction lies in kala-azar serum becoming opaque and jellified in five minutes On this criterion, the test does not appear to give absolutely uniform results In some verified kala-azar cases the serum did not become both opaque and jellified in five minutes—it jellified oftener and earlier than became opaque On the other hand, syphilitic serum reacted partially My cases are not many but the results are shown in the attached table Formalin obtained from Medical stores was used.

Yours, etc.,
L GANGULY,
Teacher, Campbell Hospital, Calcutta

CALCUTTA,
18*th December*, 1921

Formol-gel test in kala-azar

No	Case	5 minutes		10 minutes		Antimony injections received
		Jelly	Opacity	Jelly	Opacity	
1	Kala-azar	±	—	+	±	2 injections
2	Do	+	±	+	±	1 injection
3	Do	+	+	+	+	1 injection
4	Do	+	±	+	±	20 injections
5	Do	+	—	+	±	1 injection
6	Do	+	—	+	—	2 injections
7	Do	+	—	+	+	2 injections
8	Do	±	—	+	—	1 injection
9	Syphilis T S	±	±	+	+	Strong Wassermann
10	Do	—	—	±	—	Moderate Wassermann
11	Small pox	—	—	—	—	Jellified in half an hour

+ = Positive
— = Negative
± = Moderate,
± = Trace only

[Dr Napier mentioned half an hour in his preliminary note as the time required for jellification We understand that a detailed report on the test by Dr Napier will appear in the *Indian Journal of Medical Research* —ED]

To the Editor of THE INDIAN MEDICAL GAZETTE.

SIR —With reference to the letter in your issue of December 1921, regarding night blindness, I would draw attention to the article on "Night Blindness," by Lieutenant-Colonel Henry Smith, I M S, in the *Journal of the American Medical Association,* September 24th, 1921, page 1001, two paragraphs from which are as follows —

"Idiopathic night blindness is a symptom of bilateral, slowly and uniformly progressive degeneration of the retina It advances equally in the two eyes In my observation it appears to be very often, if not always, hereditary, and its earliest symptoms seem to date from an early age. From the first observed symptoms, it seldom takes less than twenty years to mature, more generally from thirty to forty years When it is mature, the patient is stone blind. The pathologic condition is generally called retinitis pigmentosa, but it is admitted that we have the same symptom and the same condition of retina without pigment. The latter condition without pigment is common in India The pigmented variety in India is I think, rarely seen In the early stage, there is very little wasting of the retina. The atrophy slowly and steadily progresses, until at last only the choroid appears, except a faint yellow spot and the optic disc. Every structure of the retina atrophies in harmony with every other In my

A NEW TEST FOR THE DIFFERENTIAL DIAGNOSIS OF APPENDICITIS *

IRA CARLTON CHASE, A.M., M.D.
FORT WORTH, TEXAS

I am not unmindful of the assurance I display in announcing a new test for the differential diagnosis of appendicitis. The test is but a more rational method of applying abdominal palpation, resulting from a better understanding of the cause of the pain produced in an inflamed appendix by abdominal compression. I have found the procedure so simple and satisfactory that I hope it may prove so to others. I have applied to it the term "cecal distension test" as expressive of the procedure.

DESCRIPTION OF THE TEST

The patient is best placed on a hard, low bed or table. The knees should be flexed and two pillows placed under the head and shoulders, giving a dorsal semirecumbent position, rendering the abdomen flaccid for the most satisfactory abdominal compression. The surgeon stands on the patient's left, facing the feet. The palmar surfaces of the fingers of the right hand are placed under the patient's left inguinal region and the fingers of the left hand used to reinforce the right. Deep pressure is then made backward, slowly drawing the fingers deeply and forcibly upward under the left costal arch. This procedure is intended to compress the lower portion of the descending colon and force its gaseous content into the transverse, and thence to the ascending colon. The pressure being maintained with the fingers of the left hand, the right hand is then removed and placed over the upper portion of the descending colon, or better over the transverse colon, and the fingers are quickly and forcibly depressed. A gaseous compression wave will travel across the transverse and down the ascending colon and on arriving at the cecum will produce cecal distension, yielding a typical sharp pain in the right iliac fossa, if inflammation of the cecum or appendix be present.

PRINCIPLES OF THE TEST

The diagnosis of pathologic conditions in the abdomen is peculiarly difficult because of the impossibility of direct palpation or examination of individual organs. If traction at will could be made on an inflamed tube, gall bladder or appendix, an exact diagnosis could be better made. Whenever any inflammation exists about the cecum an abnormal amount of gas collects in the colon. This is not usually transferred to the small intestine, owing to the sufficiency of the ileocecal valve. The compression of this colonic gas and the descent of a gaseous compression wave into the cecum produces a sudden motion of the inflamed area, exactly as though a cord were attached.

There may be some differences of opinion as to the exact cause of the pain. After much study, with operative and postmortem examination, I have reached the following conclusions. Distension of the bowels or appendix does not cause pain. Pain is rather relieved, as the visceral distension from toxemia increases during the course of intestinal diseases. Neither is pain relieved by rupture of the appendix, which would often render distension of that organ impossible. As distension increases, both pain and muscular action decrease. For this reason, the pain of an inflamed appendix seems inseparably connected with motion or muscular action. Dull aching or throbbing pain in appendicitis may be caused by swelling and peritoneal tension. The typical cramp-like pains of appendicitis are probably due either (1) to tetanic contractions of the muscular walls of the ileum or appendix, compressing the nerves, like a cramp in the leg, or (2) to peristaltic or other visceral motions, pulling on sensitive adhesions. In case of the test, the increased intracecal tension might induce counterperistalsis in the ileum, which would be transferred to the appendix, or peristalsis might be induced in the appendix by sudden cecal distension independent of peristalsis in the ileum, or distension movement might pull on sensitive appendicular adhesions—we know that an adherent inflamed appendix is much more painful than a free one. In any case the pain is due to distension motion or to induced peristalsis. Pain by direct compression at McBurney's point is probably produced by similar colonic motion, or peristalsis, rather than from actual palpation of the appendix.

APPLICABILITY OF THE TEST

The cecal distension test, if carefully carried out, will demonstrate conclusively, I believe, the presence or absence of active inflammation in the cecum or appendix by the typical colicky pains usually following in the right iliac region. If the pain during the attack has been reflected to the pelvis, gall bladder, epigastric or umbilical region, the induced pain is also likely to radiate there.

Diseased conditions of the small intestines, stomach, gall bladder, kidney, ureter, bladder, ovary, tube, etc., may simulate typhlitis and appendicitis, causing tenderness and pain at McBurney's point, but in my experience they do not respond to this distension test, unless secondary inflammation has invaded the walls of the cecum or appendix. This test is of particular value when rigidity and tenderness on the right side make a direct palpation painful or impossible.

Whether the upper portion of the descending colon or the transverse colon be used for the production of the compression wave will depend on circumstances. Fortunately in the diseases under consideration the stomach is usually empty and the transverse colon is readily located by percussion. When the colon is loaded with fecal matter, or assumes the V form, hanging downward toward the symphysis, or the small intestines are much distended, or the abdominal wall abnormally fat, or the rigidity and tenderness have extended to the left side, the application of the test will have to be varied. Often the method will then consist merely of a vigorous massage of the left colonic region in an antiperistaltic direction. The procedure I have outlined, I find, gives the most satisfactory compression in the majority of cases. It is usually better to induce the compression wave at the transverse colon rather than under the left costal arch, as in this way more of the descending colon can first be compressed and one is surer of striking the transverse colon than the deeply situated splenic flexure.

HISTORY OF THE TEST

Some three years ago I visited a woman on the second day after an operation for acute appendicitis. Her abdomen was slightly distended and she was complaining of pains, which, she said, were exactly like those suffered before the operation, and expressed some doubts as to her appendix having been removed. As soon as

* Read before the North Texas Medical Association, Fort Worth, Texas, December 1907.

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[For other information see second page following reading matter]

SATURDAY, FEBRUARY 22, 1908

CONGESTED POPULATIONS

Many citizens, and a number of important societies in New York City, have joined its health and charities departments in calling attention to the evils coincident on the overcrowded condition of some of its districts. A committee on congestion of population has been formed, and a campaign is preparing similar to that which the Charity Organization Society has been waging against tuberculosis. The public at large will thus learn, by means of maps, charts, models, moving pictures and lectures, and the educative facilities which the lay press so willingly affords, of the evils which densely-populated districts must suffer, and of the consequent baneful results on the community in general. All great cities should surely profit by a consideration of the proposed demonstrations, for the municipal conditions which have occasioned them obtain generally, though in perhaps lesser degree, throughout these United States.

A paper by Dr. W. H. Guilfoy[1] on "The Death Rate of the City of New York as Affected by the Cosmopolitan Character of Its Population," which he read at the annual meeting of the American Public Health Association in October, 1907, will certainly serve as a basis for important and fruitful discussion. The difficulties with which the metropolitan sanitary authorities have to contend may be gauged by Dr. Guilfoy's observation that in a community of four and a quarter millions there are 1,750,000 foreign-born people who are especially likely to affect the general death rate, because the languages, customs and habits of fully four-fifths "are so dissimilar in all respects to the requisites established by the authorities for the making of a sanitary member of the body politic."

It is little wonder, then, that although the death rate in New York City has been steadily decreasing for nearly a score of years, it has during the last few years "marked time" in its progress toward an expected lower level.

Some of the reasons why this death rate has not been progressively lowered in recent years have no relation to immigration. For instance, the native American negro section, the "San Juan Hill" in New York City, invariably exerts a cumulative effect on the mortality rates. This region is inhabited almost entirely by negroes, and the death rate among them is 38.56 per 1,000—that of the city at large being 18.35. The tuberculosis death rate is here three and one-half times the average for the entire city, only the Chinese quarter exceeds it in this respect.

When we consider that throughout the registration area in the United States every other adult negro is found to have died from tuberculosis, and also that each advanced consumptive emits daily his billions of bacteria, we must apprehend an infection which must make its influence felt throughout all strata of the population. This danger of infection is an ever-present menace to the health of the city, and it is the merest justice to compliment the metropolitan health authorities on the amazing fact that the tuberculosis death rate during the last twenty years has decreased nearly 50 per cent.

In New York City the "Russian-Polish block" is probably the most densely populated region in the whole world, not in Pekin, nor Bombay nor any other old-world city is there such congestion. Nevertheless the death rate here is low, for the Jewish people, who almost exclusively inhabit it, have a tremendous racial vitality. Though not necessarily abstinent, they are temperate in the use of alcoholic stimulants. They have no drink problem, such as almost every other section of our American people must grapple with. They are also most careful regarding the food stuffs, particularly the meats, which they ingest. And these are good reasons, among others, why the Jewish race is less prone than many others to tuberculosis. Not only this, but the Jewish race, during the forty centuries of its existence, must have acquired a comparative immunity to tuberculosis, in contradistinction to the negro and the Indian, who in comparatively recent times have had to cope with this disease, and who succumb to it in such pitifully great numbers.

The whole of the evil does not lie precisely in overcrowding. In a great city which is well sewered, and in which the huge tenements are built according to sanitary principles, many more people can live in health than was formerly the case in much smaller communities. Cities in which health and tenement-house departments are effectively administered are to-day not necessarily "man-consuming." The great cities, indeed, are coming to vie with rural districts in their low death rates. The more insalubrious regions seem now to be the smaller cities and towns where modern sanitation has not yet attained its fullest development. For example in New York State the metropolis has a birth rate of 30.7, as compared with a birth rate of 22.3 in other cities above 100,000, its death rate of 18.3 compares very well therefore, with the death rate of 15.1 in these other cities. And cities ranging in population between 50,000 and 100,000 also compare unfavorably with New York City, for with a birth rate of 26.2 they have a death rate of 18.2.

1 Medical Record, Jan. 25, 1908, p. 132.

TABLE II

Gradual Reduction of the Chlorine Contents in the E C Samples and "C' Samples in 10 Weeks (per cent loss of Chlorine)

	E C SAMPLES * AVERAGE OF 4 KEPT				"C' FROM BOMBAY KEPT IN LIGHT		SOLUTION OF BLEACHING POWDER PREPARED IN LABORATORY KEPT IN LIGHT	
	In Dark		*In Light*					
	Per cent loss on previous week's figure	Per cent of original Chlorine lost	Per cent loss on previous week's figure	Per cent of original Chlorine lost	Per cent loss on previous week	Per cent of original Chlorine lost	Per cent loss on previous week's figure	Per cent of original Chlorine lost
4-4-1919 to 13-5-1919 (39 days)	--		--		17 82		--	
8 5-1919 to 22-5-1919 (14 days)	5 09		5 78		--		--	
13-5-1919 to 22-5-1919 (9 days)	--		--		4 22		--	
22-5 1919 to 29 5-1919 (1st week)	2 80	2 8	2 98	2 9	4 71	4 7	--	
29-5-1919 to 5-6-1919 (2nd week)	0·89	3 6	1 98	4 9	0 66	5 3	--	
5-6-1919 to 12-6-1919 (3rd week)	3 83	7 3	3 03	7 7	1 99	7 2	--	
12-6-1919 to 19-6-1919 (4th week)	1 24	8 5	3 00	10 1	1 02	8 1	--	
19-6-1919 to 26 6-1919 (5th week)	1 26	9 6	2 11	12 4	1 71	9 8	--	
26-6-1919 to 3-7-1919 (6th week)	2 48	11 8	1 70	13 9	2 44	11 9	3 92 (1st week)	3 9
3-7-1919 to 10-7-1919 (7th week)	1 01	12 7	1 73	15 4	1 43	13 2	2 86 (2nd week)	6 6
10-7-1919 to 17-7-1919 (8th week)	0 63	13 2	1 10	16 3	2 54	15 3	6 30 (3rd week)	12 6
17-7-1919 to 24-7-1919 (9th week)	1 13	14 2	*Nil*	16 3	0 74	16 0	4 48 (4th week)	16 5
24-7-1919 to 31-7-1919 (10th week)	1 26	15 3	3 25	19 0	0 74	16 6	5 16 (5th week)	20 8

-- Not done

* Manufactured 8th May, 1919. Per cent. of available Chlorine 3 2

TABLE III

Effect of different Coloured Bottles on the available Chlorine Contents (Bottles kept in the Light)

Date	ELECTROLYTIC CHLORINE SOLUTION (8 5 1919—3 2 per cent Chlorine)					"C" IN ORANGE YELLOW BOTTLE	BLEACHING POWDER SOLUTION IN WHITE BOTTLE
	PER CENT OF CHLORINE.		Difference in loss between Green and White Bottles	PER CENT OF ORIGINAL CHLORINE LOST		Per cent original Chlorine lost	Per cent original Chlorine lost
	Average of three Green Bottles	One White Bottle		In Green Bottle	In White Bottle		
22-5-1919	2 993	3 08	— 087				
29-5-1919	2 930	2 91	— 02	2 11	5 52	4 70	
5-6-1919	2 877	2 84	— 037	3 87	7 79	5 30	
12-6-1919	2 790	2 75	— 04	5 78	10 71	7 2	
19-6-1919	2 727	2 61	— 117	8 88	15 26	8 1	
26-6-1919	2 677	2 53	— 147	10 56	17 86	9 8	
3-7-1919	2 633	2 48	— 153	12 02	19 48	11 9	3 9
10-7-1919	2 593	2 42	— 173	13 36	21 43	13 2	6 6
17-7-1919	2 573	2 37	— 203	13 56	23 05	15 3	12 6
24-7-1919	2 587	2 33	— 257	14 03	24 32	16 0	16 5
31-7-1919	2 503	2 25	— 253	16 37	26 95	16 6	20 8

reduced to a minimum in serum heated to 100 C., while repeated exposure of the serum to 56 or 60 C. diminishes its toxicity very markedly. Whether antitoxic serum may be heated in this manner sufficiently to destroy the toxic principle, but without too great injury to the antitoxin is doubtful indeed.

Besredka finds, too, that in sensitized guinea-pigs all the usual phenomena of hypersusceptibility may be prevented by ether narcosis. If the second dose of serum is injected intracerebrally, as the muscles undergo relaxation from the ether the toxic effects usually produced fail to appear and after sleeping about half an hour the animal awakens without having presented any of the visible effects of anaphylaxis. If an animal so treated is given a new dose on the following day no reaction results—it is immunized. Neither morphin nor extract of opium has the power to prevent the symptoms of anaphylaxis in sensitized guinea-pigs. Whether or not the prompt induction of ether narcosis in human beings that appear to be passing into the stage of active intoxication following injection of antidiphtheric or other serum would have any effect on the course of the intoxication might well be put to test if opportunity to do so presents itself.

No doubt special efforts are being made in many laboratories to devise means to deprive serum of the toxic principle that may cause such profound disturbances in susceptible individuals, and we cite the results just given as examples of what has been achieved.

INFECTIOUS DISEASES AND GALLSTONES

The view that gallstones are formed chiefly on account of local disturbances in the gall bladder rather than because of changes in the composition of the bile as secreted by the liver, which was so ably championed (by Naunyn), has now come to be generally accepted as correct, and all the more recent studies of the etiology of gallstone formation seem to support this idea. Especially in connection with typhoid fever, gallstones have been found to result from acute inflammation of the gall bladder, and Halstead obtained a history of typhoid in one-third of his patients operated on for gallstones. Thanks to numerous careful studies of the bile in typhoid, and in cases of cholecystitis and cholelithiasis, the important rôle of the typhoid bacillus in the etiology of gallstone formation has come to be generally recognized, but the relation of other acute infectious diseases to cholelithiasis has been less considered.

In an interesting paper Dr. Helen Baldwin[1] reports a study of the bile obtained from 225 autopsies, with results which indicate that probably typhoid is by no means the only febrile disease that is likely to cause cholecystitis and subsequent formation of gallstones. In no less than seventy-two of these cases the bile was found to be abnormal, in seventeen there were evidences of an early stage of cholecystitis, fourteen contained bilirubin-calcium calculi, and forty-four contained free cholesterin, either as gallstones or granular and crystalline deposits. Among the 225 cases in this series were fifty-one in which the cause of death was some acute infectious disease, and in one-third (seventeen) of these there were characteristic changes in the bile which were not noted in patients who died of chronic disorders. The bile in these cases presented a purulent appearance, due not to leucocytes, but to great numbers of epithelial cells desquamated from the mucous membrane of the gall bladder, at the same time the bile is generally acid and contains somewhat increased quantities of cholesterin. This condition was observed in typhoid, pneumonia and other acute infectious diseases, which also are sometimes accompanied by thick, muddy bile full of desquamated epithelium and granular masses of cholesterin, pneumonia was by far the commonest cause of death in the cases in which these changes were noted in the bile. Likewise deposition of cholesterin within the cells still attached to the walls of the gall bladder occurs particularly in acute infectious diseases. On the other hand, deposits of bile pigment occur chiefly in the gall bladders of old patients with chronic diseases.

It would seem that in all acute infections, especially pneumonia, as well as typhoid, the mucous membrane of the gall bladder suffers considerably from either the infecting bacteria or their products, an actual cholecystitis often being present. Extensive desquamation of the epithelial cells results, and in case these are not freely washed out of the gall bladder they disintegrate and produce cholesterin, thus serving as a starting point for gallstone formation. It would be interesting to learn in how large a proportion of patients with gallstones a history of previous infectious disease other than typhoid can be obtained. We may call attention to the relation between appendicitis and gallstones which the surgeons speak of as being significantly frequent, surely in appendicitis, as in typhoid, the location of the liver and gall bladder on the portal system, where the bacteria of these two infections are carried, offers the best possible opportunity for biliary infection. However, the connection between the bacterial origin of gallstone formation and the great preponderance of cholelithiasis in women does not seem to be apparent.

1 Jour. Biol. Chem., 1908, iv, 213.

RAILROAD ACCIDENTS

The *Accident Bulletin* of the Interstate Commerce Commission for July, August and September, 1907, presents a picture of death and injury which is no more creditable to the American railroads than its predecessors, since there were 1,339 killed and 21,724 injured during the three months. A table is given showing the nature and cause of 49 prominent train accidents, 31 collisions and 18 derailments, involving 141 deaths, 641 injuries and $732,709 damages. The total dam-

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Gracey, three years are to be given to traditional Chinese practice, followed by six years of modern western medical studies At the end of these nine years, if the candidate passes his examinations which are specified to be thorough three years' more of study and trial practice will be required before he is qualified—all this in addition to a certain required literary grade. Evidently Chinese prejudice will not permit the entire abandonment of the old ways and there will therefore be much to unlearn during the six years of scientific western training, but a discriminating knowledge of the time-honored methods—superstitious and trivial as they may be—will hardly be a handicap to the Chinese physician, and it is easy to conceive how in many ways it may be an aid to his professional success The length of time and high requirements for qualification will doubtless prevent any superfluity of members of the new type of Chinese physician

Medical News

CALIFORNIA.

Fire in Hospital—At a fire which occurred in the laundry of the French Hospital, San Francisco January 6 three employés lost their lives, but all patients were saved by the bravery of the nurses and internes, who remained at their posts of duty Damage of $50 000 was caused by the fire.

Smallpox.—San Mateo has erected tents in the corporation yard for the care of the five smallpox patients in the town —— In and near Fresno 18 cases of smallpox have recently occurred. ——The board of health of San José reports that the smallpox situation is well in hand.——Smallpox is reported near Woodville and Poplar

Hospital Notes—The new Red Cross Child Hospital, San Mateo, was *dedicated with impressive ceremonies January 23* The hospital contains an operating room, five rooms for patients, the necessary living rooms for nurses etc.——To put the Rideout home, Marysville in proper shape for the needs of the Memorial Hospital $5 000 is required Of this sum the physicians of the city have subscribed $1 000 ——Dr James J Hogan is about to erect a hospital building in Vallejo, to cost about $30 000, and to accommodate about 30 patients

December Deaths.—During December 3 484 deaths were reported which includes several hundred which occurred in November and before but were included with December returns Chief among death causes were Tuberculosis, 503, diseases of the circulatory system 483 pneumonia, 375, diseases of the nervous system 324 violence (including suicide) 308 diarrhea and enteritis 206 cancer 186 nephritis, 176, typhoid fever, 80, diphtheria 50 influenza, 18 scarlet fever, 12, bubonic plague, 9 malarial fever, measles and whooping cough, each 6, and smallpox, 1

Personal—Dr R. S Lanternman has resigned as coroner of Los Angeles County ——Dr Fred T Bicknell has been elected president Dr Everett R. Smith, vice president, Dr William W Hitchcock treasurer and Dr Walter Lindley secretary of the California Hospital Los Angeles ——Dr George S Hartness has been appointed health officer of Stockton ——Dr and Mrs Albert Abrams San Francisco have returned from Europe ——Dr Wood C Baker has been elected president, and Dr Franklin M. Seibert secretary of the San Mateo board of health ——Dr Gayle G Moseley Redlands has been elected president of "The Settlement," an institution for the care of poor consumptives

Ill and Injured—Dr John H Soothill Anderson has been seriously ill with pneumonia ——Dr Henry Gibbons Jr., San Francisco, dean of Cooper Medical College was seriously injured in a collision between his automobile and a street car, February 4 Fortunately no bones were broken but he suffered from shock and numerous contusions of the head ——Dr Hubert N Powell Berkeley who has been seriously ill with septicemia due to an operation wound is convalescent ——Dr Herman I Schlageter San Francisco member of the board of health, was seriously injured February 8, by being run down by a street car, and is now under treatment at the Lane Hospital ——Dr D C Strong San Bernardino, was operated on for appendicitis February 4 and is doing well

Illegal Practitioners Fined.—Lee Wai a Chinese herbalist of San José, charged with practicing medicine without a license, is said to have pleaded guilty January 25 and to have been fined $100 which was promptly paid ——Charles Steele, Los Angeles, claiming to be an 'East Indian doctor," charged with practicing medicine without a license, is said to have pleaded guilty February 3, and to have been fined $100 and to have paid the fine ——John Baker, Los Angeles, charged with practicing optometry without a state license is said to have been found guilty and to have been fined $50 February 3 ——Tom Shee Bin a Chinese "herb doctor" of Los Angeles charged with practicing medicine without a state license is said to have been found guilty February 1, and to have been fined $180 He filed a notice of appeal.

GEORGIA.

Society Meetings.—At the annual meeting of the Clarke County Medical Society, held in Athens, January 3 the following officers were elected President Dr Isham H. Goss Athens, vice president, Dr W D Carter, Wintersville, secretary treasurer, Dr J Peebles Proctor Athens, censor, Dr S S Smith, Athens and delegates to the state medical association, Drs Isham H Goss and J Charles McKinney, both of Athens ——At the annual meeting of the Floyd County Medical Society the following officers were elected President Dr James C Watts, Rome vice president Dr Isaac Sewell Cave Spring secretary, Dr W Littell Funkhouser, Rome treasurer Dr William De Lay, Rome censor Dr Robert M. Harbin, Rome and delegate to the state medical association Dr Ross P Cox Rome ——The Habersham County Medical Society at its annual meeting, held in Mount Airy January 4, elected the following officers President Dr J W Crawford Cornelia vice president Dr R. B Lamb Demorest, and secretary treasurer Dr Oliver T White Mount Airy ——At the annual meeting of the Thomas County Medical Society held in Thomasville January 2 the following officers were elected Dr Henry A Mann Boston president Dr D Christopher Montgomery, Merrillville, vice president, and Dr Ferguson Thomasville secretary ——At the annual meeting of the Bartow County Medical Society, held in Cartersville, the following officers were elected Dr Robert E. Adair, Taylorsville president Dr William C Griffin, Cartersville vice president Dr Tanner Lowry Euharlee secretary treasurer, and Dr Fred V Turk, Stilesboro, delegate to the state society

ILLINOIS

Money for Hospital.—By a collection in the Evanston churches February 9, about $5,000 was realized for the Evanston Hospital

Personal—Dr John R Webster Monmouth completed his fiftieth year of practice February 10 when he was a guest of honor at a large dinner party ——Dr Edwin A. Weimer Pekin, was seriously injured in a runaway accident February 10

Hospital Notes.—The Sisters of St Margaret have completed plans for the erection of a new hospital building at Spring Valley to cost from $15 000 to $20 000 ——Plans have been made for the new brick isolation hospital for Peoria to replace the building recently burned ——St Francis Hospital, Evanston during 1907 treated 275 patients of whom 93 were charity patients 84 part pay patients and 98 pay patients

Smallpox.—The schools of Lewistown have been closed on account of the presence of smallpox ——A case of smallpox was discovered February 2 in Lincoln ——Several cases of smallpox diagnosed as chickenpox, have been discovered in Lacon Schools churches and places of public gatherings have been closed ——There were 60 cases of smallpox reported to the city board of health of Springfield during January 19 houses are under quarantine and 5 patients are being cared for at the Isolation Hospital ——South Bartonville reports 2 cases of smallpox ——Three new cases of smallpox were reported in Rockford February 6 ——The smallpox situation at Peoria is reported to be *improving* ——*On February 16 small*pox was reported at the University of Illinois

Chicago

Smallpox.—Three new cases of smallpox were reported February 10 one from the South Side one from the North Side, and one patient reported at the health office

Milk Dealers Fined.—On February 7, 19 milk dealers were fined by Municipal Judge Sadler in sums varying from $5 to $25, of these 17 were accused of selling milk below the stand

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were reported in Worcester and the Isolation Hospital is filled to overflowing

Association of Boards of Health.—The annual meeting of the Massachusetts Association of Boards of Health was held in Boston, January 30 The program consisted of papers on the prevalence and the proper attitude of boards of health toward venereal diseases, and a committee was appointed to consider the matter of diminishing the spread of syphilis and gonorrhea The following officers were re elected Dr Henry P Walcott Cambridge, president, Drs Samuel H Durgin Boston, and Charles V Chapin, Providence, R. I, vice presidents, and Dr James C Coffey, secretary

Compulsory Vaccination.—A bill has been introduced into the legislature making it unlawful for any board of health, board of education or any other public board to compel vaccination of any child or person of any age, or make vaccination a condition precedent to the attendance at any public or private school either as pupil or teacher This bill will be opposed by the legislative committee of the Massachusetts Medical Society

Council Meeting.—The winter meeting of the council of the Massachusetts Medical Society was held in Boston, February 5, Dr George W Gay, Boston, president, in the chair The report of the committee to consider the providing of legal counsel for members of the society accused of malpractice was accepted and will come up for adoption by the society at the next regular meeting in June The committee on state and national legislation reported that it was inexpedient to form a North Atlantic Branch of the American Medical Association The same committee reported that it had enlisted the cooperation of the Massachusetts Bar Association in the matter of expert testimony A bill had been introduced in the Massachusetts legislature providing that the court may appoint from a list of accredited experts, nominated by medical organizations, the experts in a given case This does not alter the rights of either side to engage additional experts of its own It was voted to recommend to the governor the reappointment of Dr Edwin B Harvey Boston, as secretary of the State Board of Medical Examiners Dr Stedman advocated that the Boston insane hospitals be placed under the charge of the state and it was voted to recommend this action to the legislature The committee on medical diplomas reported a list of colleges suitable for recognition by the state society, and whose diplomas should be accepted as required by the by laws on admission of candidates

Personal.—Dr Patrick E Hurley Holyoke, has been elected city physician ——Dr William L Richardson, Boston, has been appointed a trustee of the Perkins Institution and Massachusetts School for the Blind ——The board of health of Fitchburg was organized February 5 with Dr Alfred O Hitchcock, chairman, and Dr Atherton P Mason, bacteriologist.——The State Mutual Life Insurance Company, Worcester, has elected Dr Thomas H Cage consulting medical director Dr Albert Wood, medical director, and Dr Homer Gage, associate medical director ——Dr Amasa E Paine has been re elected vice president, and Drs Samuel J Gruver, Jesse H Averill and Arthur L Beals members of the executive committee of the Brockton Hospital ——Dr Hosea M Quimby superintendent of the Worcester Insane Hospital for 18 years has been granted a long leave of absence and will spend the remainder of the winter in southern California ——Dr Emile Poirier has been appointed a member of the municipal advisory board of Salem ——Dr Charles E Inches Boston, will spend the balance of the winter in Paris ——The mayor of Quincy has appointed Dr William G Curtis inspector of milk ——Dr Benjamin R. Symonds has returned to Salem after a two months' vacation

MICHIGAN

Personal.—Dr Mortimer Willson has been re elected president of the Port Huron Hospital and Home Association ——Dr Murdock M. Kerr, Laurium, has been appointed examining surgeon for the Calumet, Houghton and Sault Ste Marie companies of the Michigan National Guard

New Hospital.—The Van Dusen Hospital addition now almost completed, will it is said make that the finest hospital building in the state It is a part of the Michigan Hospital for the Insane Kalamazoo and will be used as a receiving ward for female patients The building will be used as a receiving ward for female patients The building will accommodate 100 patients and the necessary attendants

Hospital Notes.—To end the evils arising from the so called secret lying in hospitals in Detroit, Dr J Henry Carstens proposes the establishment of a general municipal hospital with a lying in section ——During 1907, 297 patients were treated at the Port Huron Hospital 187 of whom were private room and 110 ward patients In 1906 241 patients were cared for, showing a gain for the year of 56 or about 23 per cent During the year 17 deaths occurred ——The late Charles Baer, Port Huron, made a deathbed bequest of $2 000 to the Port Huron Hospital, the interest of which will be turned into the Free Bed Fund

MISSISSIPPI

State Hospitals.—The new hospital and dormitory buildings for the East Mississippi Insane Hospital, Meridian, which will accommodate more than 200 patients, are almost ready for occupancy ——The latest reports of the Mississippi Insane Hospital, Jackson, show that there are 1,300 patients under treatment ——The establishment of a state charity hospital at some central location in Mississippi as recommended by the Mississippi Medical Association, will be brought to the attention of the legislature at this session, and it is hoped to secure the establishment of this hospital at Jackson

Society Meetings.—At the annual meeting of the Warren County Medical Society, held in Vicksburg, December 11, the following officers were elected Dr George Y Hicks, president, Dr Edgar F Crowther, vice president, Dr Sydney Johnston, secretary, Dr Vincent Bonelli, treasurer, Dr Hume H Haralson, delegate to the state society, and Dr Ewing F Howard, censor, all of Vicksburg ——At the annual meeting of the Tri County (Copiah, Pike and Lincoln) Medical Society, held in Brookhaven, December 10, the following officers were elected Dr James A Rowan, Wesson, president, Drs C H Rice, Summit, John T Butler, Brookhaven, and Joseph M Cashings, Hazlehurst, vice presidents, and Dr Dudley W Jones, Fernwood, secretary treasurer The society placed itself on record as favoring a tuberculosis sanitarium in connection with the proposed state hospital ——At the annual election of the Perry Greene County Medical Society, held December 16 at Hattiesburg, the following officers were elected Dr Joseph J Stevens president, Dr Louis H Howard, vice president Dr S Lewis Knight, secretary treasurer, Dr W R Thomas, censor, all of Hattiesburg, and Dr Prentis A Carter, New Augusta, delegate to the state association ——At the annual meeting of the Union County Medical Society held in New Albany, the following officers were elected President, Dr W A Whitten, Keownville, vice president, Dr J H Windham secretary treasurer, Dr Samuel E. Eason, New Albany, and censor, Dr G Fred Cullens, Wallerville.

NEW JERSEY

Atlantic City Hospital Benefited.—A variety show by the women of Atlantic City several weeks ago netted $1,050 to the City Hospital to fit up the new buildings

Personal.—Dr Sylvan G Bushey of Camden was stricken blind as a result of influenza February 12 It will probably be some time before he regains his sight ——Dr Harry Jarrett, Camden is reported to be critically ill with pneumonia

Communicable Diseases.—The epidemic of diphtheria at the Rahway Reformatory is said to be checked There have been 230 cases, but no deaths ——The churches and schools of Dorchester and Leesburg which have been closed on account of diphtheria, will probably reopen this week

Antivivisection.—At a meeting of the State Humane Society, in Newark, February 7, a bill was introduced and approved to prevent the indiscriminate vivisection of animals for the sake of science The society desires to have it known that its members are not opposed to vivisection entirely, but believe that certain restrictions should be instituted to save animals pain or suffering The bill would also make it unlawful for vivisection to be performed for the purpose of discovering something that has already been proved

NEW YORK.

Smallpox.—Within thirty six hours 4 cases of smallpox developed in Newburgh One of the victims is principal of a school which has 800 pupils, and the board of health has ordered the school closed ——Smallpox is now prevalent in Kingston, Walden Wappingers Falls, Fishkill and Pleasant Valley In at least one case the exposure was from Kingston, and the health board there has been severely censured for allowing the patient to leave the town

Typhoid in Peekskill.—Twenty five cases of typhoid have developed in Peekskill within a week making a total of 75 persons who are ill with the disease ——The State Board of Health is inspecting the watershed in the town of Cortland —— Men employed by New York City on the new aqueduct have been living along the streams and the state authorities are promoting a general clean up As no other sources of contagion

Original Articles

RHINOSPORIDIUM KINEALYI OF THE CONJUNCTIVA CURED BY TARTARATED ANTIMONY (TARTAR EMETIC), AND NOTES ON A CASE IN WHICH THE LACHRYMAL SAC WAS AFFECTED BY THIS SPOROZOON

By R E. WRIGHT, M D,

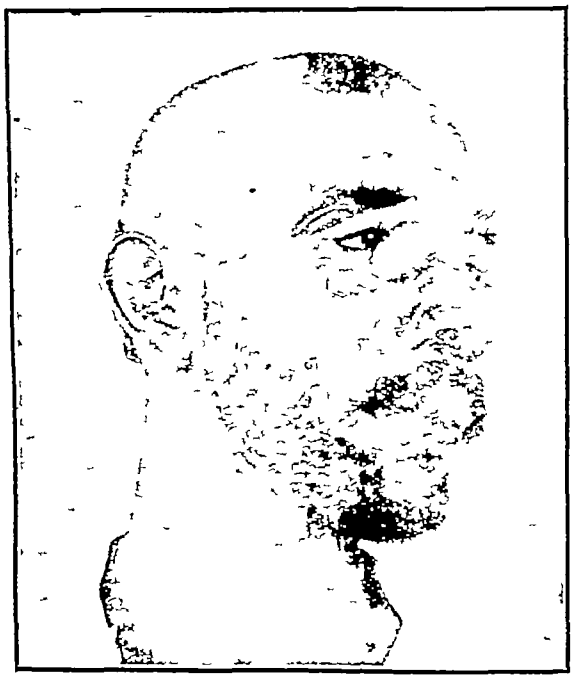
MAJOR I M S

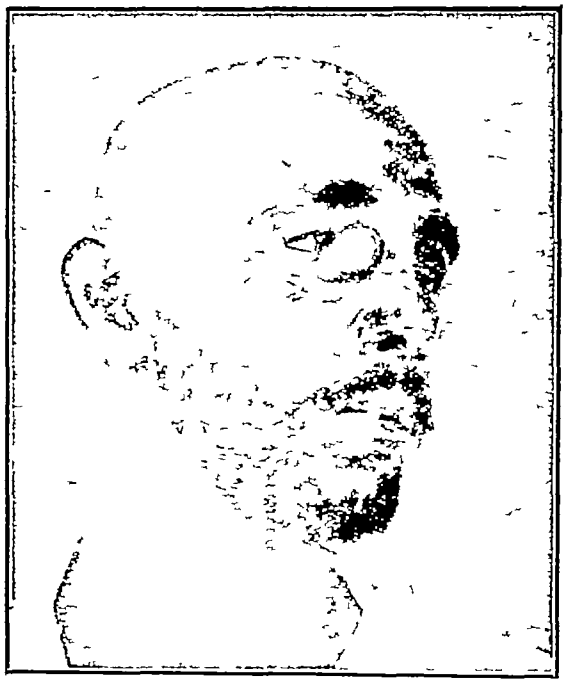
Acting Superintendent Government Ophthalmic Hospital, Madras

IN the first instance a brief reference will be made to what appears to be the second case on record of rhinosporidium of the lachrymal sac Kirkpatrick's case, the first ever published, was described in the "Ophthalmoscope" for 1916

In October last a Moplah was admitted to the Government Ophthalmic Hospital with what appeared to be, an inflamed cystic condition of the lachrymal sac (*see* photograph) There was a red tense swelling in the region of the lachrymal sac about the size of a filbert with a small sinus above from which thin purulent material escaped The mass was boggy to the touch, could not be squeezed flat, but gave the impression of being filled with granulations On examination of the nose large masses of rhinosporidial polypi were seen springing from the inferior and middle turbinates The sac was extirpated in the usual way, and on section was seen to consist of a fibrous wall with polypoid projections from its inner surface completely filling its lumen The surrounding bony parts were hollowed out from the pressure of the mass but were not in any way diseased, nor was there any infiltration by the growth which apparently confined itself to proliferation on the free surface The whole mass and some pieces from the nose were sent to Major Cunningham Director of the King Institute for further experimental work on animals He will, at a future date, publish his observations The wound healed and the patient took his discharge at his own request without waiting for further operative treatment of the nasal condition

The case of rhinosporidium of the conjunctiva, referred to in the title, was previously mentioned in a communication offered to this journal for publication in September 1921 In that article the case was referred to as





No 2 It was further pointed out that the lad who suffered from the rhinosporidial polypi of the right upper lid had been treated with quinine solution (aqueous solution of quinine bihydrochloride) instilled into the eye three times a day at first in a strength of 1 per cent subsequently in a strength of 2 per cent, for over two months without effect

The quinine treatment was started on 17th June, 1921 on 3rd August, 1921, there was a definite increase in the size of the growth as compared with its first appearance The growth was now accurately measured It was a flattened disc, 5 mm across by 5 mm long excluding its narrow pedicle On 4th August, 1921 the patient was put on tartarated antimony drops, 2 per cent aqueous

succeed the old Twenty third District Medical Association, with the following officers President, Dr W A Logan, Lehigh, vice president Dr John B Clark, Coalgate, and secretary treasurer, Dr Leonard S Willouer, Atoka ——The Wagoner County Medical Association has been organized with the following officers President, Dr William E Floyd, Coweta, secretary, Dr George W Ruble, Wagoner, and censors, Drs J M Williams, Wagoner, Coffman, Porter and A E Corder, Coweta ——The Jefferson County Medical Society was organized at Waurika, January 14, with the following officers President, Dr D A. Wilson, Waurika, vice president, Dr Joseph M Stephens, Hastings, secretary treasurer Dr Arthur R Lewis, Ryan, censors, Drs Clinton M Maupin, Waurika, Derr and John W Browning Geary, and delegate to the state society, Dr L J Cranfill, Loco

PENNSYLVANIA.

Bequest.— A bequest of one tenth of an estate of $40,000 is made to the Allentown Hospital by the will of the late W B K. Johnson

Society Elections—At the annual meeting of the Armstrong County Medical Society, held Dec 10, 1907 the following officers were elected President, Dr Joseph D Orr, Leechburg, vice president, Dr Joseph M Steim, Kittanning, secretary, Dr Jay B F Wyant, Kittanning, and treasurer, Dr Thomas M Allison, Kittanning ——At the annual meeting of the Berks County Medical Society held Dec 10, 1907, the following officers were elected President Dr S Banks Taylor, vice presidents, Drs Irvin H Hartman and William W Livingood, secretary, Dr Ira G Shoemaker corresponding secretary Dr George W Overholser, treasurer, Dr Seymour T Schmehl, librarian, Dr Frank G J Runyon curator, Dr Harry L Rentschler, and trustee Dr James R Gerhard, all of Reading ——At the annual meeting of the Blair County Medical Society held Dec 26, 1907, the following officers were elected President, Dr Elmer E Neff, Altoona, vice presidents, Drs Samuel C Smith, Hollidaysburg and Joseph D Findley Altoona secretary, Dr John D Hogue Altoona and treasurer, Dr William S Ross, Altoona ——At the annual meeting of the Pittsburg College of Physicians January 16 the following officers were elected President, Dr George C Johnston, secretary, Dr Cregg A Dillinger and treasurer Dr Ewing W Day —— At the annual meeting of the Huntingdon County Medical Society, held January 9 in Huntingdon, the following officers were elected President, Dr Charles B Bush Orbisonia, vice president Dr George W Simpson, Millereek, secretary and recorder Dr Howard C Frontz, Huntingdon, treasurer Dr George C Harman, Huntingdon, and censors, Drs Rudolph Myers Huntingdon, Charles Campbell and Andrew B Brumbaugh, Huntingdon

Philadelphia.

College of Physicians' New Home—The contract for the erection of a new home for the College of Physicians was awarded January 28 The building will cost $300 000, and is to be erected at Twenty second and Ludlow Streets It will be a two story fireproof brick and stone structure, 110x150 feet containing a museum lecture hall library, laboratory and portrait gallery It is said that the work of erection will be started at once

Diphtheria—One of the public schools in the northeastern portion of the city was ordered closed February 10 by the secretary of the board of education because several of its pupils were ill with diphtheria The classes were dismissed and the pupils notified to return the next day, when the work of disinfecting the building should be completed ——Four students who were found in the Reformed Episcopal Theological Seminary and the family of the sexton who occupies quarters in the seminary building were quarantined by the board of health February 12, because the son of the sexton has diphtheria

Health Report—The total number of deaths for the week ended February 15 was 623, an increase of 25 over the number in the previous week The principal causes of death were Typhoid fever 19 scarlet fever 5, diphtheria, 10, influenza, 6 erysipelas 7 consumption, 79, cancer, 22, diabetes 6, apoplexy 10 heart disease 68 acute respiratory diseases, 109, enteritis 16 cirrhosis of the liver, 5 appendicitis, 6 acute nephritis 5 Bright's disease 50 accidents, 19, suicide, 5 premature birth 10, congenital debility, 10 old age 12, and marasmus 1 There were 270 cases of contagious diseases reported with 34 deaths as compared with 257 cases and 33 deaths, reported in the preceding week

Bequests—A provisional bequest of a portion of an estate of $40,000 to St Vincent's Maternity is contained in the will of the late Bridget Reilly ——The will of the late Alexander Crawford makes a contingent bequest to the Episcopal Hospital of $10,000 This sum is to be used to maintain a bed in memory of the testator's wife The same will bequeaths $7 300 to the Northern Dispensary and $3 000 to the Shelter ing Arms Mission ——The will of the late Adelina S Tryon bequeaths $1,000 each to the Rush Hospital for Poor Consumptives, *St. Christopher's Hospital* and the *Kensington Hospital* for women ——A bequest of $25 000 to the Frankford Hospital to be applied to permanent improvements is contained in the will of the late Williams H Burns

Health Bureau Changes—Dr Joseph S Neff director of Public Health and Charities announced the following promotions and appointments on February 12

Bureau of Health—Dr Seth M Brumm appointed assistant medical inspector vice Dr Charles W Karsner resigned Municipal Hospital—Dr J Earl Ash promoted from second assistant resident physician to first assistant vice Dr Seth M Brumm Dr Edward T Clement promoted from third assistant resident physician to second assistant Dr John T Adylotte promoted from first assistant to resident physician on the non salaried staff to third assistant on the salaried staff Dr J Roy McKnight promoted from second assistant resident physician on the non salaried staff to first assistant Dr Charles J Swalm promoted from third assistant resident physician on the non salaried staff to second assistant Philadelphia General Hospital—Dr Henry D Jump appointed registrar Dr Herman Schwatt appointed outdoor physician for the Sixteenth and Seventeenth wards and Philadelphia Hospital for the Insane—Dr Charles S Potts appointed member of the Advisory Board

Donations and Bequests—The board of managers of the Hospital of the University of Pennsylvania acknowledges the following donations during 1907 for the endowment of free beds and has placed appropriate tablets in the hospital acknowledging the same Donation of $9 590 from the estate of John Joseph Alter for a free bed in memory of John Joseph and Louise Alter, donation of $5,000 from Susan D Keim Savage for a free bed in memory of George deB Keim, donation of $10 000 from the estate of Mary Cheves Dulles for two free beds in memory of the donor, and donation of $5 000 from William Gorman for a free bed in memory of Richard and William Lewis Wistar ——A provisional bequest from an estate valued at $150,000 is contained in the will of the late George W Warner for the Pennsylvania Hospital for the Insane Episcopal Hospital and the Pennsylvania Institution for the Instruction of the Blind

Medical Schools and the U S Pharmacopeia—At an informal conference called by Prof Joseph P Remington, of the Philadelphia College of Pharmacy, of the teachers named below in the medical schools of this city, the following resolution was passed

Resolved That it is of the utmost importance for accuracy in prescribing and in the treatment of disease that students of medicine be instructed fully as to those portions of the United States Pharmacopeia which are of value to the practitioner and that members of the medical profession be urged to prescribe the preparations of that publication and further that this resolution be forwarded to the medical and pharmaceutical journals and to the teachers of medicine and therapeutics in the United States

James Tyson M D	James C. Wilson M D
John H Musser M D	R Q Thornton M D
John Marshall M D	John V Shoemaker M D
Horatio C Wood Jr M D	Seneca Egbert M D
J W Holland M D	M C Thrush M D
H A Hare M D	I Newton Snively M D

February 3 1908

Health Bureau's Work for December—The report of the Division of Medical Inspection shows that the number of inspections made excluding schools, aggregated 3 052 The inspectors ordered 715 fumigations and examined 64 cases for special diagnosis The total number of visits made to the schools was 4 624, and 556 children were excluded from attendance They made 132 injections of antitoxin, collected 418 cultures and performed 208 vaccinations—The report of the division of milk inspection shows that 3 304 inspections were made including 190 172 quarts of milk Of this number, 984 quarts were condemned 13 inspections were chemical and 989 were microscopic ——The report of the bacteriologic laboratory shows that 1 714 diphtheria cultures and 416 specimens of typhoid blood were examined, 973 specimens of milk and 156 specimens of sputum were also examined and 3 716 400 units of antitoxin were distributed ——The division of Vital Statistics reports 2,143 deaths and 2 600 births

Tuberculosis—A number of the city churches will follow the example of St Stephen's Protestant Episcopal church in establishing tuberculosis classes under the auspices of the Pennsylvania Society for the Prevention of Tuberculosis Other churches that will take up the work are the Centenary Meth

In all three cases there was a white eye, without lacrymation or photophobia or other symptom, implanted on the conjunctiva of which was a fleshy growth dotted with tiny round seed-like bodies, unnoticed by the patient

The growth in the third case was examined in serial sections, but no new points in the pathology of the condition were brought to light Some good paintings of case number one were obtained which I hope to publish at a later date

In connection with these cases there are some points which are worth comparing with previous records others which may have a bearing on the life of the parasite when it leaves the body and its method of access to the human host

These are set forth below —

1 The three boys were Eurasians and had been residing in the Civil Orphan Asylum for over six years Only one of them had been on holidays outside Madras (to Poona) None of them had ever been to the west coast

2 In the same institution resided ninety-one other boys and sixty girls of ages varying from 5 to 16

The respective ages in the three cases quoted being 13, 14 and 14

3 None of the girls showed rhinosporidium of the conjunctiva

This is of interest in view of the fact that rhinosporidium kinealyi has not been recorded in a female in the Madras Presidency

4 All slept on little mats on a first floor of stone, the boys all together in one large dormitory, the girls in another

5 They used a large built swimming bath, elevated above ground level, about fifty feet long and twenty feet broad, covered over but fairly open at the sides, so that dust was freely carried in The girls bathed once a day, except Saturday and Sunday, the boys once a day, except Sunday, and twice a day in the hot weather The water in the bath was changed "once in two or three weeks"

6 They all played games daily in dusty playing grounds

7 None of the three cases recorded showed involvement of the lachrymal sac or nose, although one might have expected such reinfection if a phase in the life history of the parasite outside the human host is unnecessary

This also applies to the cases of involvement of the conjunctiva and lachrymal sac referred to at the commencement of these notes

8 The position of the growths suggests dust or water transmission This applies also to growths involving lachrymal duct, nose and penis It may be noted that in the single recorded case of involvement of the penis, the man was a Mahomedan

9 Transmission of the sporozoon to monkeys proved negative, as on a previous occasion when it was attempted by Ingram and a former Director of the King Institute, Guindy

Careful inoculation experiments were carried out on monkeys from fresh material excised from case number one, under the personal supervision of Major J Cunningham, the present Director of the King Institute, Guindy

Part of the parasitic growth was emulsified in a mortar Some of the emulsion was injected into the lung of one monkey and some implanted by sacrification on the glans penis and prepuce

Small whole pieces of the growth were buried subconjunctivally In a second monkey the subconjunctival implantation was repeated Neither monkeys showed anything in four months Major Cunningham proposes to do further work on this subject as soon as I can let him have material and his results will no doubt appear in due course

10 As to treatment, it would appear that quinine drops 1 per cent instilled into the eye three times a day for one month, followed by 2 per cent for a second month, had no effect whatever

Clean excision by undercutting the pedicle a little was not followed by recurrence It seems a rational method considering the histology of the condition The reason of failure in the case of nasal growths is probably lack of knowledge on the part of the operator as to the exact spot from which the growth springs One can easily imagine that the common reprehensible practice of "removing polypi" (blindly with a snare without anything further) must result in recurrence in almost every sort of polyp

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(1) Elliot and Ingram. "Ophthalmoscope," 1912, Vol X, page 428

(2) Kirkpatrick. "Ophthalmoscope," 1916, Vol XIV, page 447

(3) Tirumurti "Practitioner," 1914, page 704, *et seq*

BLACKWATER FEVER AS IT OCCURS IN THE DUARS AND ITS TREATMENT

By SURESH CHANDRA ROY, L M S,

Sub-Assistant Surgeon (temporary), Gairkatta

RECENTLY there has been much discussion about blackwater fever in the medical press, and it may not be out of place if I venture to forward this note—my experience for the last six years

Blackwater fever is endemic in the Duars One or two cases are met with here every year

Whatever the germ of the disease may be whether malarial parasite or some other special germ (Colonel H Wright, *I M G*, May, 1920) it is seen that the disease is preceded by a malarial attack or attacks and generally develops in the course of it It is frequent in the rainy season, which corresponds with the malarial season of the place I have not found any case in winter Only

cough from 39, diphtheria from 25, measles from 26, and smallpox and scarlet fever each from 11 ——A case of leprosy has been discovered near Yale, Sussex County The patient is a Russian woman, who has been in America about 10 years ——Trenholm has been placed under quarantine on account of the prevalence of smallpox ——Warrants were issued January 25 for 12 women and 4 men, who refused to be vaccinated under the general vaccination order of Roanoke ——Two cases of smallpox have been discovered among the students of the Medical College of Virginia.——Smallpox is said to be raging near Bowling Green The courts have been suspended and the public schools closed ——The high school at Palmyra has been suspended on account of the prevalence of measles

WASHINGTON

Hospital Notes.—It is announced that a marine hospital is to be erected and maintained at Hoquiam ——Drs Eugene S Clark and Dalton, Sumas, are equipping a building in the south end of the town to be used as a hospital, pending the building of a public hospital

Urge Pardon.—The State Board of Pardons, at its session in Walla Walla January 20, recommended an unconditional pardon for Dr Mary A Latham, Spokane convicted in the Superior Court of Spokane County on the charge of arson in 1905, and sentenced to four years' imprisonment in the penitentiary

Personal.—Drs. Charles E. McClure, Stuart V R Hooker and George N McLaughlin have been appointed school medical inspectors of Seattle ——Dr Alfred J Helton has been appointed health officer of North Yakima, vice Dr Thomas Tetreau —— Dr Philip Frank, North Yakima, has been elected president of the State Board of Health, and Dr Elmer E Heg, Seattle, has been re elected its secretary for the seventh time

Illegal Practitioner Sentenced.—William M Green, Granite Falls, is said to have been fined $50, January 2, for practicing medicine without a license ——Henry C Karnopp, Spokane charged with practicing medicine without a license, was fined $50 January 18, and was also ordered to return $70 in fees paid by a patient to him ——Theodore H. Wheeler, Tacoma, on January 30 is said to have been found guilty of practicing medicine without a license and fined

Communicable Diseases.—Smallpox is reported from Castle Rock ——There are said to be 23 cases of smallpox in Albion ——There are several cases of smallpox near Belma ——Wenatchee is reported to have about 60 cases of smallpox, the schools have been closed and compulsory vaccination has been ordered ——Scarlet fever is reported at Cheney ——The schools of St John were closed February 1 for one week on account of the prevalence of scarlet fever

WEST VIRGINIA.

Malpractice Suit.—In the suit against Dr William W Alden, Elkins, president of the state medical association, in which damages to the amount of $10 000 was asked on account of alleged malpractice, the jury returned a verdict in favor of the defendant

Personal.—Dr Andrew J Noome, Wheeling, has been elected vice president of the Ohio County Medical Society, vice Dr Harry M. Hall, resigned ——Dr H Byron Baguley, Wheeling, has been made assistant surgeon general of the state, with the rank of lieutenant colonel ——Dr John E Cannaday, Glendale, has returned from Europe

Society Meetings.—At the annual meeting of the Marion County Medical Association, held in Fairmont the following officers were elected President, Dr Fred W Hill, vice president, Dr C W Waddell, secretary, Dr James W McDonald, treasurer, Dr William H Sands, censor, Dr Claude L. Holland, and delegate to the state society, Dr James J Durrett, all of Fairmont ——The Eastern Panhandle Medical Association, composed of physicians of Jefferson Morgan and Berkeley Counties, at its annual meeting held in Charlestown, elected the following officers President, Dr William Neill, Charlestown, vice presidents, Drs A Bruce Eagle Martinsburg and George S West, Gerrardstown secretary, Dr Richard E. Venning, Charlestown, and treasurer, Dr Francis M. Phillips, Harpers Ferry

WISCONSIN

Sanitarium Burns.—The Oconomowoc Health Resort Lake Nagawicka which is in charge of Dr Arthur W Rogers, formerly of Wauwatosa was destroyed by fire January 15 with a loss of $25 000 The 25 patients in the institution were safely removed to neighboring farmhouses

Till at Work Again.—John Till, who recently paid a fine of $50 for practicing medicine without a license is now said to have opened an office for the practice of medicine" at Somerset The attorney general has directed the district attorney of St Croix County to inquire into the matter

Hospital Notes.—St Mary's Hospital, Watertown, was opened to the public January 9 ——The new Home for Incurables, which is being erected at Milwaukee Hospital, with the gift of $50,000 made by Mr Frederick Layton, is nearing completion The building will accommodate about 55 patients

Found Guilty.—In the case of Dr Edward C Schmitt er, charged with having caused the death of Miss Anna Severson, who died June 6, 1906, from the effects of an illegal operation, the jury is said to have found the defendant guilty of man slaughter in the second degree In a second petition, the jury is said to have asked for leniency

Communicable Diseases.—Diphtheria is reported to be epidemic in Washburn ——Scabies is so prevalent in one of the school districts in Stettin, near Wausau, that steps have been taken to close the school for a short time, in order to prevent the spread of the disease.——Scarlet fever is reported to be epidemic at Mygatts Corners ——Smallpox is said to be extremely prevalent on the Oneida Reservation ——La Crosse is said to have about 15 cases of smallpox, and compulsory vaccination is urged by the health officers

Personal.—Dr Frank B Golley has been elected president, and Dr Arthur T Holbrook, secretary treasurer, of the staff of the Emergency Hospital, Milwaukee.——Dr Daniel B Collins, Madison, was recently operated on for appendicitis in Madison General Hospital ——Dr John W Coon, formerly superintendent of the Milwaukee County Hospital, Wauwatosa, has assumed the management of the Valmora Ranch Sanatorium, Watrous, N M ——At the annual meeting of the Wisconsin State Board of Health and Vital Statistics, held in Madison, January 29, Dr William F Whyte, Watertown, was re elected president ——Dr Frederick W Byers, Monroe formerly surgeon general of the state, has announced his intention of retiring from practice ——Dr George C Ruhland city bacteriologist of Milwaukee is ill with diphtheria, contracted while engaged in his official duties

GENERAL

Personal.—Dr John Sayre Marshall, examining and supervising dental surgeon, U S Army, who has been in the East, and recently visited his friends in his former home, Chicago, has left for the Philippine Islands on a two years' tour of duty

Hospital Ship Wanted.—The chief of the bureau of medicine and surgery U S Navy has asked the House committee on naval affairs to recommend an appropriation of $1 000,000 for the construction and equipment of a hospital ship for the Navy

Hodgkins Fund Prize.—The Smithsonian Institution announces, that in connection with the approaching International Congress on Tuberculosis, to be held in Washington, September 21 to October 12, a prize of $1 500 is offered for the best treatise that may be submitted to that congress on "The Relation of Atmospheric Air to Tuberculosis" This fund is the income of a donation made in 1891 by Dr Thomas G Hodgkins, Setauket, N Y, the object of which was "the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man" The treatise may be written in English, French, German, Spanish or Italian The treatises will be examined and the prize awarded by a committee appointed by the secretary of the Smithsonian Institution in connection with the officers of the International Congress on Tuberculosis The right is reserved to award no prize if in the judgment of the committee no contribution of sufficient merit is offered to warrant such action The Smithsonian Institution also reserves the right to publish the prize treatise Further information if desired, will be furnished by Mr William D Walcott secretary of the Smithsonian Institution, Washington, D C

CANADA.

Society Meetings.—The Canadian Medical Association will hold its annual meeting this year in Ottawa, June 9 to 11 Dr Montizambert, director general of public health, Ottawa, is the president ——The Ontario Medical Association will hold its annual meeting in Hamilton, Ont May 26 28, under the presidency of Dr Ingersoll Olmsted, Hamilton

Health of Winnipeg for December, 1907.—There were 10 cases of typhoid fever in Winnipeg in December, 35 of scarlet fever 33 of diphtheria, 6 of measles, 2 of tuberculosis with 2 deaths 22 of mumps, 9 of erysipelas, 2 of chickenpox and 2 of smallpox Smallpox seems to be on the increase both in

Any special symptoms such as tympanitis should be met with suitable remedies

Quinine—There is much difference of opinion about its use Some think it dangerous, but I think not so in all cases In some cases it is not required Liq arsenicalis in increasing doses commencing from m I is sufficient But in some cases quinine is necessary In one of the severe cases, I had to administer it in 10-grain doses daily, in 2 doses for 4 days, before the fever stopped In another case, I had to inject it Sometimes fever persists after all other symptoms have cleared away I use quinine bihydrochloride I am of opinion that quinine should be given if fever persists after the stoppage of hæmolysis and all other symptoms have subsided

As regards the use of quinine in subsequent malarial attacks I have used and am using the drug without any bad result

Some tonic such as iron and arsenic, is given for after treatment

Diet—It should be light, consisting of milk, milk and soda-water, barley water and milk whey etc Fruit juices are also given

In conclusion I may suggest that if the saline injection is commenced from the outset the progress of the disease may be checked and it may not turn into a serious type

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LABORATORY RECORDS FROM MESOPOTAMIA

By F P MACKIE,

MAJOR, I M S

Formerly Officer Commanding the Central Laboratories at Amara and at Baghdad
With the assistance of

CORPORAL GEORGE TRASLER, R G A

II THE DYSENTERIES

Bacillary Dysentery

THE large proportion of stools which were sent to us under suspicion of being bacillary in origin had already been examined for the presence of amœbæ

In Amara, the Medical Officer of No 32 British General Hospital, Captain G Lapage, R A M C, a trained Protozoologist was working in the Central Laboratory, and it was customary for all suspected fæces to be first examined by him for the presence of protozoa, and such of those as contained blood and mucus which were negative to *Entamœba histolytica* were then plated by us and examined for the specific bacteria of the dysentery group In Baghdad, this examination had generally been done in the hospital from which the stool was sent so that in all cases the specimens plated by us were selected samples With experience, it is possible to diagnose bacillary dysentery by naked eye inspection of the stool when the disease is in its acute stage, and if the absence of amœbæ is verified by microscopic examination, one can return an immediate positive to the clinician who will then administer anti-dysenteric serum without further delay

The typical stool of acute bacillary dysentery contains glairy mucus with bright blood and some thin bloody fluid and is almost entirely free from fæcal matter The appearance is often that like the scrapings of raw flesh floating in raw meat juice Under the microscope it is seen to consist of pus and blood cells with large macrophages and desquamated intestinal cells and there is an absence of entamœbæ and of cysts When these appearances are seen, the diagnosis may at once be returned as bacillary dysentery and serum given The confirmatory examination is carried out as follows —

Technique—A shred of the blood-stained mucus is taken on a platinum loop and washed in two changes of broth to wash away all traces of fæcal matter It is then put direct on to a McConkey plate and well rubbed all over the surface and the plate incubated After 24 hours, the plate will be found to show a few red lactose-fermenting colonies and a number of delicate colourless colonies of one of the members of the dysentery group Not infrequently we found a pure culture of dysentery bacilli without a single coli colony and in most acute cases the dysentery colonies predominated over the coli colonies Some of the colourless colonies were then emulsified in saline on a glass plate (as described in our previous paper) and tested with high-titre sera of Shiga and Flexner and also with some of the polyvalent anti-dysentery serum used in treatment In the large majority of cases, the organism was shown to be either a Shiga or Flexner strain, but even when these were negative, if agglutination occurred with the polyvalent serum, the indication for the use of that serum in treatment of the case was just as strong There remained only to put the organism through the four sugars—lactose, glucose, mannite and dulcite—and to put it up to the end point with high-titre serum

The important point in the diagnosis of bacillary dysentery is to get the stool quite fresh as acid quickly develops and this acts inimically to the specific bacilli which soon die out It has been recommended to add alkali to the stools if they cannot be examined at once, but of this we have had no experience Our specimens in Amara were sent up direct in the bed-pans from the adjoining hospital and in a considerable series of over 100 of such we got nearly 60 per cent of positives, which is as much as can generally be obtained under the most favourable conditions Another element in the time factor is of great importance in the successful recovery of bacilli of the dysentery group and that is the stage of the disease This is referred to in more detail below, but it is obvious that the earlier one sees one's cases, the more chance is there of successful

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, Feb 1, 1908

Epidemic of Influenza in London.

Influenza of a virulent type is prevalent in London and the provinces Thirty two deaths due to the disease occurred in one week and in the three preceding weeks 28 21 and 25 respectively In other parts of the country and in Edinburgh and Glasgow the disease is also rife

Delirium Tremens and Sudden Deprivation of Alcohol.

It has often been stated that it is dangerous for the subjects of delirium tremens to be deprived of alcohol suddenly but the recently published prison statistics of England and Wales confute this During the year, 212,000 persons were incarcerated of whom 132 died In the latter delirium tremens was certified as a cause of or a condition at death in only 3 cases Yet 63 000 persons, of whom one third were females, were sent to prison for drunkenness Many other prisoners were of course notorious drinkers Among the prisoners (suddenly deprived of alcohol) 246 cases of delirium tremens were recorded, of which one fourth occurred in females Of these, 4 men and women were certified as insane and sent to an asylum 159 men and 59 women had recovered, and 16 men and 6 women were discharged at the end of their term Epileptiform convulsions were rare among alcoholic prisoners

Dr Hughlings Jackson and the National Hospital for the Paralyzed and Epileptic.

The staff of the National Hospital for the Paralyzed and Epileptic has commemorated the long services of Dr Hughlings Jackson to the hospital and to neurology by placing a marble bust representing him in the hall The "father of neurology" is now consulting physician to this hospital and to the London hospital He is the most distinguished of that distinguished group of workers who formed the staff of this hospital a generation ago and who have built up the science of neurology in this country—Brown Séquard Russell Reynolds Buzzard, Bastian Gowers These men have been succeeded by names equally eminent—Ferrier Beevor Omerod Victor Horsley, Risien Russell and others In the period between 1880 and 1890 the hospital was not only the center of neurologic interest in Great Britain but of neurologic progress in the world Students from every country in Europe and from America flocked to it, as indeed they still do Similarly, patients come to it from all over the world—even from such distances as Asia, the United States and the British colonies

VIENNA LETTER

(*From Our Regular Correspondent*)

VIENNA, Jan 27, 1908

An Epidemic of Influenza.

The variable weather throughout this country has caused an epidemic of influenza somewhat different in type from preceding epidemics within the last twenty years The attack generally begins with high fever (104 F) lasting one or two days and terminates quickly after three or four days with bronchitic symptoms As sequelæ affections of the accessory sinus of the nose are reported Whole families are stricken, many physicians are themselves affected and even lectures at the University have had to be suspended on account of the absence both of students and lecturers The mortality is not higher than usual, but the morbidity is very high Bacteriologic examinations prove the presence of Pfeiffer's bacillus, but its virulence is markedly lower than expected

Strike of a Medical Staff

A remarkable strike from an unusual motive occurred recently in the Wiedner Hospital and has led to an improvement both for the staff and the patients The quality of the food offered to the staff has been constantly growing worse, so that finally the rations were refused A system of "economy" was responsible for the deterioration When the scandal became public the administrative board had to resign and it was determined that in the future the food for the staff should be subjected to an inspection by one of the staff members before being served

Medical Life Insurance

A movement has been set on foot to establish a special life insurance for practitioners As now planned this would not only involve a substantial reduction of the rates for practitioners but also an addition to the funds of the Medical Chamber for relief purposes

Therapeutics

Lobar Pneumonia.

(*Concluded from page 545*)

GENERAL TREATMENT

There is no acute disease that needs fresh air and plenty of it so much as does pneumonia With a whole lobe of a lung, or more, unable to respire, fresh, clean oxygenated air is an absolute necessity The frequency of the respirations is diminished, the heart is slowed, and the temperature becomes lowered There should be no drafts on the patient, but the windows should be wide open, the open air treatment of pneumonia is an unexpected success

The same cleanliness and the same care of the mouth as is advised in typhoid fever should be carefully carried out in pneumonia Also, in this very exhausting and rapid disease the patient should not be often disturbed when he is quietly sleeping, either for medicine or for nourishment

No coal tar products or other antipyretic drugs or cardiac depressants should be administered after the first twenty four hours of pneumonia. If the temperature is troublesomely high which it generally will not be with the proper fresh air treatment, the patient may be sponged with tepid water This sponging should be confined to the abdomen and extremities The thorax should not be sponged except for cleanliness, and then with hot water It is not necessary to sponge to reduce temperature if the fever is below 103 F, as, unlike typhoid fever, this disease does not tend to last for weeks, and a temperature above 102 F for a few days can do no harm, or even above 103 F for a short time

Gentle massage of the extremities, with or without alcohol, aids the circulation promotes the excretion of muscle toxins, and often aids in relieving the toxemia

Pneumonia patients have been fed too much It is unwise to push nutrition or to give large quantities, even of milk at any one time in this disease Indigestion with consequent flatulence and tympanites is a condition very serious in pneumonia and any nutriment found to cause gastric or intestinal disturbance should not be given If milk agrees with the patient perhaps there is no nutriment better, but a quart at the outside limit in twenty four hours is sufficient. Two raw eggs a day, given in bouillon, in coffee, or with sherry or brandy as seems best, furnishes the kind of albumin the patient needs If there is but little fever the eggs may be poached, if desired The expressed meat serum from a pound of beef should be given, in divided doses, each twenty four hours provided the kidneys are intact

If the heart is doing well and there is no trouble in the other lung the drinking of plenty of water should be encouraged On the other hand, if the heart is laboring and there is bronchitis or edema or congestion of the other lung, water should be reduced and even the liquid diet should be scanty

The bowels should be moved daily, often best with a small glycerin enema, but if the tongue is badly coated, a gentle saline purge should be given, using the most agreeable one

When the blood count shows a deficient leucocytosis, some nuclein treatment has been recommended This may be administered as a grain of nuclein two or three times a day, a two or three grain thymus tablet two or three times a day, or, if the patient's stomach will tolerate it, yeast The yeast used for this purpose is the upper layer of brewers' yeast, and should be administered in tablespoonful doses, in water, two or three times a day This makes a sour drink, very pleasant to some patients, and acts as a laxative It seems to be proved, however that the increased number of polymorphonuclear cells caused by nuclein preparations does not quite do the work of the polymorph leucocytes caused by an infection. In septic

This shows that dysentery and its immediate complications were responsible for 76 per cent of the deaths, and amongst these amœbic lesions were rare

Different groups of cases were tested as to their agglutination response to Shiga and Flexner bacilli with the following results —

Group I All clinical dysentery cases negative to E *histolytica* Total, 20 Positive to Shiga bacillus, 70 per cent , [minimum serum dilution 1 in 100] Positive to Flexner bacillus, 15 per cent [minimum serum dilution 1 in 100] Negative, 15 per cent

Group II All apparently healthy cases from the camp, four of whom were doing hospital work Total 10 Positive to B Shiga, 20 per cent Positive to B Flexner, 10 per cent Negative, 70 per cent

Group III Consisting of cases of bronchitis, debility, and diarrhœa in the camp hospital Total 10 Positive to B Shiga, 20 per cent. Positive to B Flexner, 10 per cent Mixed infections 10 per cent Negative 60 per cent

These agglutination results, though based on small figures, are interesting, and support the other evidence showing a high rate of Shiga infections

The absence of B dysenteriæ from the blood stream and from the viscera after death —During the course of our investigations in the wards and the post-mortem rooms, we were never once able to recover the dysentery bacillus from the blood during life, nor from the gall-bladder, the liver or the mesenteric glands after death The number of cases in which this was attempted was about 37 When one sees the extensive and deep ulceration which occurs in the gut, it is strange that dysentery bacilli so rarely succeed in invading the blood stream This indicates that dysentery is a local disease of the large intestine and is not part of a general septicæmia as typhoid fever is

An enquiry into the cause of an outbreak of bowel disease amongst the British troops in Mosul —An undue prevalence of diarrhœal disease appeared at the end of 1918, just after the armistice, and the mobile laboratory was ordered to proceed to Mosul to investigate its causation We found a great deal of severe diarrhœa and some amœbic and bacillary dysentery, though none of a very severe type

Our enquiries turned more in the direction of epidemiology than of bacteriology, for we found the causes at work were of complex nature.

The troops on their last victorious march from Baghdad to Mosul had encountered many desert springs of which they had drunk freely The water, it turned out, contained abundant saline matters, probably sulphate of sodium and magnesium, and these had started diarrhœa This was aggravated by the lack of warm clothing, as the troops had outmarched their warm clothing and when inspected by us were only in possession of khaki ' shorts " in a Mosul winter

Next there were complaints about the quality of the bread and this was examined It was made locally in the civil bazar from flour which had been handed over to us by the Turks and when examined was found to contain a considerable amount of powdered stone ground off the soft millstones In addition, there was an admixture of some wild vetch-like seed which occurs as a tare in badly cleaned wheat, and this was said by the local doctors to give rise to intestinal irritation

It seemed certain that part of the diarrhœa was due to the mechanical irritation by the silicious particles which were evident as grit in the bread

Still another cause was found

Mosul is a city of dirt and flies indescribable The Army Commander, when he flew to Mosul from Baghdad to take over the city after the armistice, began his address to the Mosul Fathers with the words " In this the dirtiest city in Asia "

There were numerous fruit and sweet stalls in the open bazar and the number of flies befouling these food-stuffs baffles description, but despite this, the soldiers who had been marching and fighting in the desert for months could not resist the temptation to eat large quantities of raw dates, figs and sweetmeats There was no doubt that much of the severer type of bowel disease was due to fly contamination

We dissected a number of flies caught in the bazar and were able to demonstrate cysts of amœbæ in a few of them

We went further and examined washings from the rind of some of the dried fruit exposed for sale and found bodies indistinguishable from amœbic cysts in the centrifugalised deposit

A comparison of this epidemic with that in the refugee camp is interesting In the latter, one witnessed an acute specific disease ravaging a broken-down and unresisting community

At Mosul, one met with a complexity of causes acting on a well-nourished body of men, of which specific infection was not the most important We decided that these causes were as follows —

A chemical irritant, namely, aperient salts

A mechanical irritant, namely, pulverised stone

A general depressant, namely, insufficient clothing

Specific irritants, namely *Entamœbæ* and *B dysenteriæ*, chiefly of the Flexner type

Flies and dysentery —The epidemiological evidence in favour of the dissemination of dysentery by flies is considerable, and in tropical countries we may accept this method as one, if not the principal, cause of its spread

We attempted to find experimental evidence to prove this point whilst in Amara, and ourselves examined the question from the bacteriological side, whilst the protozoological side was undertaken by Captain Buxton, RAMC, and Lieutenant J H Woodger, both

large doses it seems to prevent the heart from properly dilating during diastole and also seriously excites the nervous system In other words very large doses or very frequent doses of strychnin are harmful in pneumonia

Though digitalis is advised by some clinicians, much harm has been done by this drug in pneumonia, and it is the general opinion that it should not be administered in this disease

Intramuscular injections of ergot, especially if there is cerebral congestion as shown by meningeal symptoms, and especially if there is low pulse tension and failing heart, has seemed to save life An antiseptic preparation should be used, it should be injected into the deltoid muscle under antiseptic measures The dose is a syringeful of the fluidextract, every three hours for two or three doses, and then every six hours for several doses, to be stopped as soon as the circulation is improved With a clean syringe and antiseptic cleanliness, abscesses are not caused, and any slight swelling and tenderness is easily subdued by a wet dressing

Caffein, best given in the form of a small cup of coffee once or twice in the morning, with or without milk as the patient desires provided there are no meningeal symptoms, has good action both as a cardiac stimulant and as a diuretic, and is often agreeable

In the emergency of a sudden heart failure the hypodermic injection of nitroglycerin and strychnin and two or three injections into the muscles of a saturated solution of camphor in olive oil may tide over the condition and save life Five drops every fifteen minutes for several times of a solution of a suprarenal preparation (1 to 1 000), diluted with an equal number of drops of water and placed on the tongue is often of marked benefit Such suprarenal treatment however should not be continued too long nor should too large doses be given, as it may cause respiratory depression Inhalations of oxygen are also of marked benefit in such a condition

It must be reiterated however that the proper carrying out of the fresh air treatment of pneumonia will generally preclude the necessity of cardiac stimulants, cardiac tonics and the oxygen tank

If from failing heart there is edema of the well lung the amount of liquids ingested should be greatly reduced, and to prevent hypostatic congestions the patient should be moved from side to side and not allowed to rest on the back for any [illegible] length of time.

If the secretion of the kidneys is insufficient the tongue is dry and in spite of the administration of plenty of water the skin is dry a high injection of physiologic saline solution a pint once or twice a day for a few times, is an efficient diuretic

CEREBRAL SYMPTOMS

There is nothing better than cold, clean air to cause sleep in pneumonia and if the bowels are properly moved daily and intestinal fermentation is prevented so that the secondary toxins are not absorbed the patient will generally sleep If there is actual cerebral congestion ergot given intramuscularly as above described is the best treatment, unless the pulse tension is very high, in which case nitroglycerin and saline purgatives should be considered and one or two doses of chloral or one or two doses of bromids may be used If the delirium is very active a hypodermic of hyoscin hydrobromate, from 1/200 to 1/100 of a grain is often the most successful treatment Morphin should not often be resorted to as the dose required is very large and large doses are dangerous in pneumonia If the fever is high an ice cap to the head will do good but again, let it be repeated that the proper care of the bowel the proper amount of food the withholding of alcohol never administering it in large doses never pushing strychnin to the irritant point and the open window treatment of pneumonia will prevent cerebral symptoms

Pharmacology

AMOLIN DEODORANT POWDER.

What It Is Claimed to be and What It Is

Last week (page 545) we published a query and reply regarding Amolin, a "patent medicine" for which unusual claims are made, and we stated that the powder was being examined in the Association's laboratory The results of the analysis are given in the following report

> The specimen submitted to the laboratory for examination is labeled "Amolin Deodorant Powder" and is stated to be made by the Amolin Chemical Company" On the label of the package it is stated concerning Amolin
>
> "Destroys all odors of perspiration"
> "Wherever it touches it instantly deodorizes"
> "Its wonderful healing and deodorizing properties, combined with absolute harmlessness, make it infinitely superior to any preparation hitherto sold"
> "Amolin powder relies chiefly for its antiseptic, deodorizing and therapeutic potency upon a coal tar derivative of the phenol hydrocarbon series which differs from carbolic acid in being agreeable in odor, healthful and absolutely harmless"
>
> Examination of the contents of the package proved it to be a very fine white powder slightly unctuous to the touch, similar to boric acid or talcum and emitting a faint odor of thymol Qualitative tests showed the presence of large quantities of boric acid and traces of thymol Further examination demonstrated the absence of alum, zinc salts and of other metallic constituents, usually employed in the preparation of deodorant powders Neither did the tests indicate the presence of salicylic acid, phenol or any similar organic antiseptic except thymol These tests were proved to be correct by the results of quantitative analysis of Amolin which showed that approximately 99 per cent of the powder is boric acid.
>
> The statement on the label
>
> "Amolin powder relies chiefly for its antiseptic deodorant and therapeutic potency on a coal tar derivative of the phenol hydro carbon series which differs from carbolic acid in being agreeable in odor, healthful and absolutely harmless,"
>
> evidently is intended to refer to thymol But inasmuch as Amolin contains but a small quantity of thymol and instead consists of boric acid to the extent of 99 per cent., the antiseptic properties of the powder must be due to the latter constituent alone

NINETY NINE PER CENT BORIC ACID

In plain words this remarkable powder is practically nothing but boric acid, and furnishes another illustration of what has so often been proved, i e, that "patent" and "ethical proprietary" medicines usually depend on some well known drug, or drugs in every day use for whatever therapeutic value they possess This particular preparation happens to come under the designation of "patent medicine," simply and only because it is advertised to the public direct, and the physician who wrote us got his knowledge of it through a patient—reversing the usual order

BORIC ACID AND ITS QUALITIES

Boric acid is a good thing, there is no doubt about it It makes a splendid dusting powder there are few, if any better Modify it as one may, give it an odor or a color to disguise it as one pleases, surround it with mystery or secrecy as one sees fit, it is still but boric acid with all its virtues—and limitations Dissolved in water, it makes as good a mouth wash as good an antiseptic solution as any of the high priced, extravagantly advertised antiseptic lotions on the market of which it forms the chief and most important ingredient

Proprietaries Depend on Well Known Drugs

The above matter on "Amolin" should suggest to us that if we would give more thought and study to the official drugs at our disposal we would find ourselves depending less on proprietaries To become conversant with all of such drugs as have proved valuable therapeutic agents would not be difficult,

In comparison with these non-dysentery cases, Boulenger found *E histolytica* in a series of cases of dysentery, colitis and diarrhœa

	Non-dysentery cases	Dysentery colitis and diarrhœa	Acute dysentery only
British	6 5 per cent	14 5 per cent	25 0 per cent
Indian	10 5 ,	20 5 ,	44 0 ,

FLAGELLATE DYSENTERY

The part played by the common intestinal flagellates in the production of dysentery and diarrhœa is a mater of dispute, but there is a temptation to attribute any bowel complaint to the presence of flagellates when they are numerous and other causes are not obvious This attitude we believe to be wrong, as we have never been able to satisfy ourselves that such disease was brought about by their agency

In one case, the persistence of severe diarrhœa was associated with the presence of an enormous number of *Lamblia intestinalis,* so much so that the whole of the particulate matter of the fæces appeared to be composed of masses of flagellates We considered that if there was such a thing as "flagellate diarrhœa," this surely was a case However, when the stool was plated, it was found to contain cholera vibrios, and the case was revealed as one of sub-acute cholera

Balantidium coli may certainly give rise to dysenteric symptoms, but this ciliate was only seen two or three times in the years under review This may be because Mesopotamia is a Musalman country and therefore the pig is taboo

Captain Lapage's figures show the frequency of flagellate infections to be as follows —

The figures in these tables, when compared with those of Boulenger show that the condition and consistence of the stools has little effect on the percentage infection of the flagellates, and this tends further to bear out our opinion that these parasites in the vast majority of cases are harmless commensals and play no part in the production of disease

SUMMARY

BACILLARY DYSENTERY

(I) Out of 1,121 stools, whether containing blood and mucus or otherwise and including those from all stages of disease in British or Indians, 20 3 per cent yielded *B dysenteriae* (Shiga), 15 8 per cent contained *B dysenteriæ* (Flexner), and 3 3 per cent undifferentiated strains

(II) Of the total successful platings, *viz*, 443, 51 4 per cent were Shiga infections, 40 1 per cent were Flexner infections, and 8 3 per cent were irregular strains of *B dysenteriæ*

(III) In one consecutive series of 105 stools from acute cases, specific dysentery bacilli were recovered in 59.2 per cent

(IV) In a series of 364 stools from sub-acute or chronic cases, which contained no obvious blood or mucus, 10 9 per cent were positive, and of these Flexner infections were twice as numerous as Shiga

(V) In a series of British and Indian dysenteric stools, *B dysenteriæ* were isolated from 32 6 per cent of the former and 22 6 per cent of the latter

(VI) *B dysenteriæ* dies out quickly from the stools and disappears when the acute stage of the disease is passed and when the stool becomes fæcal

TABLE IX

Flagellate infections in British Soldiers

T C.=Total cases L =Lamblia Tr =Trichomonas Tet =Tetramitus

	T C	L	Tr	Tet
4th quarter 1917	1,365	11 7 per cent	7 1 per cent	7 1 per cent
1st , 1918	378	16 9 „	5 8 „	8 2 „
2nd „ ,	589	9·3 „	5 2 „	4 5 „
3rd „ „	378	12 4 „	11 1 ,	10 5 „
4th , ,	225	4 4 „	5 7 „	6 6 „

Ledingham gives the percentage of the three types of flagellate as follows —

TABLE X

T C =Total cases yielding data L =Lamblia Tr =Trichomonas Tet =Tetramitus mesnili

	T C.		L		Tr		Tet	
	B	I	B	I	B	I	B	I
4th quarter, 1917	5,378	1,316	7 9 per cent	4 9 per cent	6 6 per cent	5 0 per cent	4 7 per cent.	1 0 per cent
1st „ 1918	1,744	1 134	7 5 ,	7 1 ,	3 7 „	8 1 „	6 5 „	3 7 „
2nd „ 1918	2,922	1,836	4 9 „	5 4 „	5 8 „	11 1 „	4 3 „	4 6 „
3rd „ 1918	2,183	1,878	7 3 „	4 5 ,	9 9 „	10 3 „	6 9 „	4 3 „
4th „ 1918	3,464	1,782	5 4 „	3 9 „	10 8 „	6 6 „	4 3 „	2 9 „

able The time is past when the owners of great city dailies can take the position that there is no connection between the editorial and advertising departments or can with any degree of consistency or self respect advocate civic righteousness on editorial pages and advertise easy and safe means of committing felonies on the advertising pages It is to be hoped that the entire medical profession of Mississippi will lend its support and endorsement to the *Morning World*, and that this example will lead the other newspapers of New Orleans to follow the *World* into paths of decency

Correspondence

Ticks in Transmission of Disease—Specimens Wanted.

WASHINGTON, D C, Feb 12, 1908

To the Editor —The agency of ticks in the transmission of diseases of man as well as of the lower animals is becoming of such importance that the Bureau of Entomology, in connection with the investigation of the cattle tick, the transmitter of *splenetic or Texas fever of cattle, is also taking up the* study of the biology of the other ticks found in this country

The importance of such an investigation into the life history and habits of ticks has been apparent in South Africa and in Europe for nearly a decade, but not until within the past year (with the exception of the North American fever tick), has it been the case in this country After failure by several scientists to connect the tick with the Rocky Mountain spotted fever, Dr H T Ricketts, following careful and extensive experiments, has succeeded in demonstrating that what may now be known as the "spotted fever tick," *Dermacentor occidentalis*, is the active agent in the transmission of the disease. The details of these experiments he has presented through THE JOURNAL. In this brilliant demonstration he has rendered great service to the human family But there is still much in connection with the source of the disease that remains to be discovered What is the source of the disease? What animal harbors the protozoan (if such it be), in its blood, etc ? The elucidation of the information needed will come with a further experimental study of the life history and habits of the ticks We are glad to learn that Dr Ricketts will continue his research in Montana during the coming spring and trust that his already brilliant discoveries will be added to

The importance of the valuable studies of Dr L O Howard, chief of the Bureau of Entomology, Dr J B Smith of New Jersey, Dr E P Felt of New York and others on the biology of the mosquitoes is now fully appreciated In order to impress on the minds of the entomologic fraternity the importance of the study of the ticks I prepared a paper for presentation at the meeting of the Association of Economic Entomologists, held at Chicago Dec. 27 28, 1907, in which the agency of ticks in the transmission of disease was reviewed

The studies now being made by this bureau on the biology of the ticks, particularly as related to host relationship and geographical distribution require the cooperation of collectors from all parts of the country The Bureau of Entomology will be glad to receive ticks from any physician, will identify them and will furnish any information desired Because of their easy access the domestic animals have in the past furnished the greater part of the collections While further collections from these animals are needed, extensive collections from game birds and mammals are also required. In connection with the hunting trip ticks can be collected in a pill box or in vials carried in the pocket. Some ticks leave the host as soon as the blood commences to coagulate and to capture these it has been found necessary to examine the host at once over a white surface, *such as a newspaper The ticks* collected will be of the greatest value if forwarded immediately on collection alive in small boxes sufficient moisture being furnished by the use of green leaves or moist absorbent cotton Ticks from different hosts should be kept separate, and data as to the locality, host, date and collector should accompany the sending On birds, the ticks are usually found attached to the head or neck protected by the feathers

All material should be sent to the southern *field laboratory* of this bureau at Dallas Texas, which is in charge of Mr W D Hunter, under whose direction I am carrying on the work on the biology of ticks Any further information as to collecting, etc, will be gladly furnished

W A HOOKER,
Bureau of Entomology, U S Department of Agriculture

Hypersusceptibility to Serum in Human Beings

RIVERDALE ON-HUDSON, N Y, Jan 24, 1908

To the Editor —Dr Wiley's case of sudden death after the injection of antitoxin, in THE JOURNAL, Jan 11, 1908, page 137 recalls a personal experience which may be of interest In August, 1904, I was called to a case of tonsillar diphtheria I injected 3,000 units of antitoxin into the muscles of the patient's back without any untoward effects At the same time, as I was suffering with painful and swollen tonsils, I injected 1 000 units of antitoxin into myself as a precautionary measure, plunging the needle deeply into the muscles of the forearm The dose for the patient had only the usual beneficial result rapid recovery, and no disagreeable after effects On the other hand, I suffered a most violent attack of sneezing, which became violent and uncontrollable, even though firm pressure was made against the upper lip and the sides of the nose, and cold compresses were placed against the face I left the sickroom in haste, and on my way toward the drug store the nose became intensely congested and respiration through the larynx and lungs more difficult every moment. The irritation in the trachea and bronchi caused a continuous cough On reaching the drug store I took some brandy, thinking that the increased circulation throughout the body would relieve the congestion of the nose, throat and lungs, but on account of the swollen condition of the tongue and throat, I had the greatest difficulty in swallowing it, even though it was greatly diluted. I was enduring intense pain in the nose, eyes and throat, due to the enormous congestion and irritation of the parts, and there were also burning and swelling of the scalp When I reached home the eyelids were swollen to immense proportions, making vision almost impossible, the tongue was swollen, making speech thick, the scalp, forehead, nose lips and cheeks were swollen and erythematous, and the conjunctivæ were injected During the afternoon and evening the symptoms abated, as the result of a saline purge, douching of the nose and eyes with a detergent solution, and the drinking of quantities of an alkaline water, which I continued throughout the attack After midnight I was aroused by an intense itching and burning of the entire surface of the body caused by urticaria Applications of a solution of bicarbonate of soda did no good, and being restless, I went out of doors, thinking that the cool night air might give relief After walking about in the open, thinly clad, for some time, I felt exhausted but little relieved I then resorted to *mopping* the body with sponges dipped in alcohol, which was only partially successful, but eventually I found relief by the application of a spray of chloroform A hypodermic injection of morphin only aggravated the condition On the following day I called a fellow practitioner and he ordered a solution of sodium bicarbonate as an application to the urticarial wheals, this, however, increased the eruption as well as the itching, both *were controlled, however, by the use of a chloroform spray* On the third day my appearance was again normal, and I was able to attend to my practice, though in a weakened condition. On returning home I was again compelled to go to bed, resume the chloroform spray and treat the injected conjunctivæ and congested nasal mucous membrane On the fourth day the hands and feet swelled greatly, and a troublesome edema of the glottis threatened, so that preparations were *made for a tracheotomy in case breathing should become en*tirely obstructed By means of a hot mustard footbath, with cold compresses to the neck and the internal administration of ergot, the symptoms were relieved Nevertheless, for two weeks after the initial attack, fresh outbreaks occurred, consisting of urticaria and swellings of various parts of the body including the scalp There was also purpura covering the entire body The reaction at the point of injection in my arm was very severe, *causing a painful arm and forearm but*

Other insects are also found in some lots of Indian cantharides, but this is due perhaps more to the neglect of the collectors than to wilful adulteration, for these extraneous insects bear no resemblance whatever to the blistering beetles

Indian cantharides is a more powerful vesicant than the European The Spanish flies yield on the average 0 7 per cent of cantharidin, while in the Indian flies the percentage varies from 0 70 to 1 92 *Cantharis hirticornis* of the Murree Hills and Hazara contains even 2 02 per cent of cantharidin The following analysis of Indian cantharides obtained from four different places was published some time ago in the *Pharmaceutical Journal* —

	Cantharidin	Ash	Moisture
Calcutta	1 47	8 7	11 0
Bombay	1 02	5 7	10 2
Lahore	1 26	5 3	7 7
Madras	1 13	7 2	10 5

The average price of European cantharides of the best quality is about 5*s* per lb The Indian product being richer in cantharidin ought to fetch more But as yet there are not sufficient supplies even for the home demand This is mainly due to the ignorance of the use and value of the blistering beetles in localities where they occur On the way from Abbottabad to Domel the writer once noticed large swarms of the flies on Berberis bushes The people considered them as a pest and a thing to avoid With spread of knowledge large quantities of these beetles will no doubt be collected in the N-W Frontier Provinces, not only enough for home consumption but for export too But till then Indian cantharides will share the same fate along with many other Indian products of considerable value, which are at present going to waste, simply for lack of enterprise

REMOVAL OF TONSILS AND ADENOIDS

By G T BIRDWOOD, M.A., M D,
Deal and Walmer Hospital, Kent

THE operation for removal of the tonsils and adenoids is frequently called for in the large towns of India, where European and Anglo-Indian communities are met with Indians themselves do not so frequently suffer from enlarged tonsils, though I have occasionally been called upon to operate on them During the last 16 years at the civil stations of Agra, Mussoorie and Lucknow, I have frequently had to do the operation The chief trouble in my mind has been what is the most efficient method of removal, and also the fear of hæmorrhage I used to ask every medical man I met (especially those out recently from England) to describe the recent methods of removal but got very little advice and help Some said "have the patient on the side and reverse the guillotine," others said "on the back and push the tonsil into the guillotine from the angle of the jaw from outside" I retired from practice in India last year and I am now in general practice in England, where removal of tonsils and adenoids is more common than any other operation There are a few men who still say the operation is not necessary and that enlargement of tonsils can be sufficiently reduced by medical means, but for the following reasons the profession as a whole strongly advocate the operation when the tonsils are enlarged —

(1) Enlarged tonsils are a continual source of infection for rheumatism, diphtheria and catarrhal organisms
(2) Recurrent colds are avoided by removal
(3) Recurrent tonsillitis is avoided
(4) Recurrent bronchitis is avoided
(5) Avoidance of enlarged glands in neck
(6) Avoidance of catarrh of middle ear
(7) Avoidance of mastoid trouble and deafness
(8) Avoidance of diphtheria carriers
(9) Avoidance of nose breathing and malformation of chest

Throat specialists now attend the school clinics of all the large cities and do many hundred operations per week The throat department of every big hospital does many cases a week and every G P does his share

Before settling in English practice, I attended several throat hospitals to learn the chief points in the technique of the operation now in vogue This article is written to describe simply the operation and to emphasize one or two points with the hope that it may help surgeons in India who are unable to get to England to see and learn the operation for themselves I myself would have welcomed such an article four or five years ago

The operation now done is total enucleation of the tonsil by the guillotine Some of the specialists (Mr Tilley, for instance, and others) advocate dissection of the tonsil on the grounds that it is a better surgical procedure and bleeding is more easily controlled But dissection out of the tonsil is undoubtedly more difficult, takes a much longer time, and needs more skilful anæsthesia Total enucleation by the guillotine, although the bleeding is smart, is rarely followed by severe hæmorrhage, and it is both rapid and efficient

POINTS IN THE OPERATION OF TOTAL ENUCLEATION

1 The anæsthetic is generally ethyl chloride or ethyl chloride followed by ether or ether alone or chloroform alone Chloroform is now seldom used but a few still adhere to it

2 A Doyen's self-retaining mouth gag is essential

'Hypernephroma' W W Keen G E Pfahler and A. G Ellis *American Medicine* Dec 17 1904

"A Case of Hypernephroma. W B Dorsett, St. Louis Medical Review Dec 17 1904

Remarks on the Pathology of Hypernephroma R L. Thompson St. Louis Medical Review Dec. 17 1904

Three Cases of Hypernephroma I C Herb *Am Jour Med Sci* June 1905

Renal Hypernephroma. P Kuzmik, *Beiträge z klin Chirurg* xlvi 1905 06

Case of Hypernephroma. W J Taylor *Am Jour Med Sci* February 1906

Clinical and Pathologic Anatomy of Malignant Hypernephroma P Albrecht *Archiv f klin Chir* lxxvii 4 abstracted in THE JOURNAL Feb 24 1906 page 622

Case of Hypernephroma of the Kidney J M Berry *Albany Medical Annals* November 1906

Hypernephroma Renis. J W Bovee *Surgery Gynecology and Obstetrics* July 1906

'A Case of Secondary Hypernephroma of the Iris and Ciliary Body Burton Chance, THE JOURNAL Feb 9 1907 page 475

Metastases of Hypernephroma E Hoffmann *Deutsche med Wochschr* xxxiii 7 abstracted in THE JOURNAL April 13 1907 p 1306

Hypernephroma of Kidney Nephrectomy ' I S Stone, *Washington Med Annals* January 1907

Presence of Lecithins in Hypernephromata G Delamare and P Lecène *Presse Médicale* 1907 xv 27

Extirpation of Hypernephroma Weighing 4¼ Pounds From an Infant. W S Cheesman, *Annals of Surgery* January 1907

Bone Metastases of Hypernephroma C L Scudder *Annals of Surgery* December 1906

Hypernephroma of the Kidney ' R Weil *Annals of Surgery* September 1907 abstracted in THE JOURNAL Oct 19 1907 p 1401

Hypernephroma I W Blackburn *New York Med Jour* Aug 17 1907 abstracted in THE JOURNAL Aug 31 1907 page 801

SCOPOLAMIN MORPHIN ANESTHESIA.

GREENSBORO N C Feb 1 1908

To the Editor —Can you refer me to articles on scopolamin morphin anesthesia in obstetric practice other than those contained in THE JOURNAL' F R TITTLE M D

ANSWER —The following articles dealing with scopolamin morphin anesthesia have been published during the last year

Technic of Scopolamin Morphin Anesthesia C J Gauss *Centrbl f Gynäkologie* xxxi No 2 abstracted in THE JOURNAL March 9 1907 page 912

First Thousand Childbirths Under Scopolamin Morphin Anesthesia" C J Gauss *Münch med Wochschr* liv No 5 abstracted in THE JOURNAL March 16 1907 page 983

Scopolamin Morphin in Obstetrics Preller *Münch med Wochschr* liv No 5 abstracted in THE JOURNAL, March 16 1907 page 983

Technic of Spinal Anesthesia Under Scopolamin Morphin for Abdominal and Gynecologic Operations. Penkert, *Münch med Wochschr*, liv No 5 abstracted in THE JOURNAL, March 16 1907 page 983

Deliveries Under Scopolamin Morphin W Steffen *Arch f Gynäkologie* lxxxi No 2 abstracted in THE JOURNAL, May 25 1907 page 1821

"Deliveries Under Scopolamin Morphin Semianesthesia Articles by O Bass and by Hochelsen *Münch med Wochschr*, liv No 11

Scopolamin Morphin Anesthesia in Obstetrics F S Newell *Surgery Gynecology and Obstetrics August* 1907 abstracted in THE JOURNAL Sept 14 1907 page 969

"Scopolamin Narcosis in Obstetrics and Influence of Drug on the Child F Holzbach *Münch med Wochschr* liv No 25 abstracted in THE JOURNAL Sept 7 1907 page 885

Scopolamin Analgesia in Obstetrics A Bertano *La Ginecologia* Oct 31 1907 abstracted in THE JOURNAL Jan 11 1908 page 139

Scopolamin Morphin in Obstetrics O P Mansfeld *Wiener Klin Wochschr* Jan 2 1908 abstracted in THE JOURNAL Feb 15 1908 page 570

"Scopolamin Morphin Anesthesia in Gynecology" Emil Ries, *Am Jour Obstet* February 1908

U S DIPLOMAS ABROAD

——— KAN Feb 10 1908

To the Editor —In what foreign countries is a diploma from a medical college in the United States recognized as evidence to practice without an examination? S

ANSWER —The foreign countries that have had no regulations or under whose regulations a graduate of a recognized medical college in the United States could practice without examination are East and West Coasts of Africa Bahama Islands British New Guinea Falkland Islands Orange River Colony Rhodesia and Transvaal Before deciding on any location it would be well to correspond with the United States consul located in that country to learn whether or not new regulations have been adopted

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers U S Army week ending Feb 15 1908

Davis W T asst. surgeon leave of absence extended five days

Lagg C L. B asst. surgeon assignment to duty in the Philippine Islands revoked

Gray W W deputy surgeon general relieved from duty as chief surgeon and attending surgeon Department of the Gulf and ordered to proceed to the Philippine Islands and on arrival at Manila to report in person to the commanding general Philippines Division for assignment to duty

Shimer I A asst. surgeon, orders so amended as to direct him on arrival at San Francisco, to report for duty as surgeon of the transport *Crook* On arrival at Manila Capt. Shimer to report in person to the commanding general Philippines Division for duty as heretofore ordered

Hadra Frederick contract surgeon sailed on the *Buford* February 5 for Philippine service

Cattermole C A contract surgeon ordered from Manila P I to San Francisco for annulment of contract

Marion G L contract surgeon ordered from San Francisco to his home Elgin Ill for annulment of contract

Slater E F contract surgeon relieved from duty at Fort Banks Mass and ordered to Madison Barracks N Y for duty

Kress C C contract surgeon on abandonment of Fort Reno ordered to Fort Bliss Texas, for duty

Craig E F, dental surgeon ordered to Fort Mackenzie Wyo for duty for twenty five days

Navy Changes.

Changes in the Medical Corps U S Navy for the week ending February 15 1908

Fauntleroy A M P A. surgeon detached from the Naval Hospital Mare Island Cal ordered home and granted leave for two months

Brown E M P A surgeon detached from the Naval Hospital Mare Island Cal, and ordered to report at said hospital for treatment.

Public Health and Marine Hospital Service

List of changes of station and duties of commissioned and non commissioned officers of the Public Health and Marine Hospital Service for the seven days ended Feb 12 1908

Balthache P H surgeon directed to report at the bureau for special temporary duty on completion of which to rejoin his station at Stapleton, N Y

Gulteras, G M surgeon directed to proceed to Port Arthur Texas for special temporary duty on completion of which to rejoin his station at Mobile Ala

Lavinder C H P A surgeon, granted extension leave of absence for 10 days from Feb 14 1908

Foster N H P A surgeon directed to proceed to Ponce P R for special temporary duty on completion of which to rejoin his station at San Juan P R

Parker H B I A surgeon granted leave of absence for 5 days from Jan 27 1908 on account of sickness

Ramus Carl P A surgeon granted leave of absence for 3 months and 23 days from March 1 1908 with permission to go beyond the sea.

Earle B E P A surgeon granted extension leave of absence for 8 days from Feb 11 1908

Francis Edward P A surgeon granted extension leave of absence for 7 days from Feb 9 1908

Bahrenburg Z P H P A surgeon granted leave of absence for 7 days from Jan 28 1908 on account of sickness

Warren B S P A surgeon relieved from duty at Chicago and directed to proceed to St. Louis and assume command of the service at that port

Ward W K P A. surgeon granted leave of absence for one day from Jan 3 1908 under Paragraph 191 Service Regulations

Roberts N asst. surgeon granted leave of absence for 6 days from Feb 8 1908 under Paragraph 191 Service Regulations

Collins G L asst. surgeon granted leave of absence for 7 days from Jan 28 1908 under Paragraph 189 Service Regulations

Mullan E H asst surgeon granted leave of absence for 1 day Jan 4 1908 under Paragraph 191 Service Regulations

Mullan E. H., asst. surgeon granted leave of absence for 7 days from Jan 20 1908 on account of sickness

Wollenburg R. A C asst surgeon granted leave of absence for 7 days from Jan 2 1908 under Paragraph 191 Service Regulations

Pullard J T acting asst. surgeon granted leave of absence for 20 days from Feb 14 1908

Duke B F acting asst. surgeon granted leave of absence for 29 days from Jan 6 1908 account of sickness

Fakins O H acting asst surgeon granted leave of absence for 30 days from April 10 1908 and excused from duty for a further period of two months without pay from the expiration of said leave

Bentley H W., acting asst surgeon granted leave of absence for one day Feb 4 1908 under Paragraph 210 Service Regulations.

thumb presses the tonsil into the guillotine, and the blade is thrust home by the right thumb The same sharp movement of pronation of the hand is done to finally sever the capsule

By this method both tonsils are entirely enucleated in their capsules

The chief points in the operation are —

(1) The Doyen's gag (2) The blunt guillotine (3) The guillotine being placed under the tonsil and pressing it strongly up

(4) The finger of the other hand pressing the tonsil well home into the instrument

(5) The sharp turn of the wrist at the final separation

Removal of adenoids —There are one or two points in this little operation which well deserve attention

(1) The position of the patient After removal of the second tonsil the patient is turned at once on his right side and faces the operator, the Doyen's gag is still in the mouth

(2) Look and see that you place the curette behind the palate for certain This is best done by looking in the mouth and placing the left forefinger behind the palate Pulling the soft palate slightly forward with your finger, you see that you pass the curette behind it The best currette is the middle-sized St Clair Thompson's

(3) See that the head is steady while you curette. Having passed the curette into position, put the left hand on the occiput of the child and steady the head while you curette with the right hand

(4) One good scrape slightly downwards and then out, should be enough to remove an adenoid

(5) The patient's head is then held over the side of the table over a basin, and the face well sponged with cold water

What about Hæmorrhage —In bigger children smart hæmorrhage does occur, but it generally stops in a minute or two One golden rule is not to operate within a month of an acute attack of tonsillitis If you do, hæmorrhage will be free Severe hæmorrhage, both primary and secondary, is held up as a bugbear and many are frightened of it As a matter of fact it is very rare Mr Irwin Moore has done many thousands of operations and only had one alarming hæmorrhage Brown Kelly says the operation in vogue when carried out completely in suitable subjects is very rarely followed by severe hæmorrhage If hæmorrhage does occur, what are you to do ? As it might be possible, it is well to have a plan in your head After discussing the subject at several throat clinics I have the following plans —

(1) The patient is on the right side Take out the gag and sponge the nose and face with cold water over the basin If the blood coming from the corner of the mouth comes away in clots you need have no fear

(2) If a continuous stream and the blood does not stop, put the gag back Take a swab on a forceps and press it well down on the right tonsil bed If bleeding stops, keep it there If bleeding continues, then put a fresh swab on the left tonsil bed That is, find out which side is bleeding and apply pressure

(3) Give an injection of hæmoplastine 1 c c (Parke Davis ampoules) This is a powerful hæmostatic

(4) If after removal of the pad from the tonsillar bed, hæmorrhage does not stop, sit the patient up and take out the gag This sometimes stops the hæmorrhage at once

(5) If bleeding still continues, put in the gag and look at the tonsillar beds , if there is a clot on either bed remove it with your finger, as hæmorrhage often is going on under it

(6) If bleeding still continues, take a small swab on a forceps, moisten with oil of turpentine and gently press on the tonsillar bed

(7) If bleeding still continues, you must either stitch the pillars of the fauces over the bleeding area or else apply a Watson Williams clamp Stitching the pillars is a difficult operation—a cleft palate needle is some help An anæsthetic is again necessary Some authorities say a clamp is not much good, that it is difficult to apply and is only placed over a small part of the bleeding surface Others say it is most valuable and indispensable and gives a great sense of security I hope some such plan as detailed above may be of help in emergent hæmorrhage

After treatment of tonsils and adenoids removal—

1 Nothing to eat for four hours after the operation
2 Then give a little warm milk or weak tea
3 In the evening a small basin of bread and milk
4 On next day after operation any soft food
5 If there is bleeding from the mouth without vomiting, give a teaspoonful of iced water every three minutes for an hour
6 Keep in bed for two days, and for a week keep away from smells and colds in the head and school

A Mirror of Hospital Practice.

AN UNUSUAL POST-OPERATIVE PHENOMENON IN THYROIDECTOMY

By A K LAUDDIE, MB ChB (Edin),

MAJOR, I M S,

Civil Surgeon, Sialkot

MOHAMMAD WALI, aged 30, of Rawalpindi District, sought admission in the Sialkot Hospital on 15th September, 1921, for the removal of a large tumour (enlarged right thyroid) on the right side of his neck He was

South Dakota Advances Preliminary Requirements.

Dr H E McNutt, secretary of the South Dakota Board of Medical Examiners reports that at the meeting of that board held Jan 20, 1908, a resolution was adopted that after the year 1910, in addition to a four year high school education, each candidate must have had at least one year's work in a college of liberal arts preliminary to the medical course, this year's work to include physics, chemistry, biology and modern languages South Dakota is the fourth state to adopt this or higher requirements, the other states being Minnesota, Connecticut and North Dakota

Iowa September and December Reports

Dr L A Thomas, secretary of the Iowa Board of Medical Examiners, reports the examinations at Des Moines, Sept 17 19 and Dec 10 12, 1907 The number of subjects examined in at these examinations was 8, total number of questions asked, 100, percentage required to pass, 75

At the September examination 14 candidates passed and 11 failed The following colleges were represented

College	Year Grad	Per Cent.
PASSED		
Atlanta Coll of P and S	(1901)	79
Northwestern Univ Med School	(1907) 75	80
Kentucky School of Med	(1907)	75
Johns Hopkins Med School	(1902)	78
University of Michigan	(1904)	84
Ensworth Central Med Coll	(1907)	75
Creighton Med Coll	(1907) 75	76
New York Homeo Med Coll	(1907)	77
Western University London Ontario	(1907) 76 79	85
University of Toronto Canada	(1906)	77
FAILED		
Illinois Med Coll	(1907)	68
Sioux City Coll of Med	(1907) 69	73
Keokuk Med. Coll College of P and S	(1904)	70
University of Iowa College of Med	(1907)	74 2
University of Iowa Homeopathic Dept	(1900)	66
Drake University	(1907)	68
Baltimore Med Coll	(1904)	71
Creighton Med Coll	(1906)	57
Western Pennsylvania Med Coll	(1 35)	68
University of Naples Italy	(1890)	69 8

At the December examination 9 candidates passed and 2 failed The following colleges were represented

College	Year Grad	Per Cent.
PASSED		
Northwestern Univ Med Coll	(1906)	80 2
University of Iowa	(1907)	76 5
Sioux City Coll of Med	(1907) 78 5	79 5
Baltimore Med Coll	(1904)	78
Creighton Med Coll	(1907)	83
St Louis University	(1906)	76 7
Western Pennsylvania Med Coll	(1905)	77 5
Jefferson Med Coll	(1907)	83 3
FAILED		
Keokuk Med Coll	(1904)	72 7
College of P and S Kansas City Kan	(1901)	68 2

District of Columbia April, July and October Reports

Dr George C Ober secretary of the Board of Medical Supervisors reports the examinations at Washington, April July and October, 1907 The number of subjects examined in at these examinations was 16, total number of questions asked, 82, percentage required to pass, 75

At the April examination 6 candidates passed and 11 failed. The following colleges were represented

College	Year Grad	Per Cent.
PASSED		
Georgetown University	(1906)	81 2
George Washington University (1905) 85 1	(1906) 80.9	—*
Howard University	(1906)	75 4
McGill University Montreal	(1895)	83 1
FAILED		
George Washington Univ (1905) 47 8 67 1 72 7	(1906)	70 4
Howard University	(1906)	50 6
Georgetown University (1903) 69 7 (1905) 70 2	(1906)	73
Baltimore Med Coll (1900) 59 7	(1901)	73 2
University of Maryland	(1906)	51 2

* Percentage not given

At the examination held in July the total number of candidates examined was 35, of whom 22 passed and 13 failed. The following colleges were represented

College	Year Grad	Per Cent.
PASSED		
Georgetown University (1907) 77 4 79 2	(1907)	87 1
George Washington University (1906) 75 (1907) 77 3 77 5 78 2 79 8 83 7 83 7 86 7 87 2 87 6		
Howard University (1906) 79 1 84 5	(1907)	84
Yale Medical School	(1904)	86 2
Baltimore Med Coll	(1901)	78 8
Boston University	(1907)	89 2
New York Homeopathic Med Coll	(1907)	97
Hahnemann Med. Coll., Philadelphia	(1907) 89 4	93.7
FAILED		
George Washington Univ (1906) 72 3 72 6	(1907) 68 3	72 3
Howard University (1906) 67 5 68 5 71 9	(1907) 63 7,	73 2
Baltimore Med Coll	(1900)	63 1
Johns Hopkins Med School	(1907)	†75.5
St. Louis Coll of P and S	(1907)	73 2
Leonard Medical School	(1906)	65 2

† Failed in two branches to make necessary percentage of sixty

At the examination held in October the total number of candidates examined was 33, of whom 25 passed and 8 failed The following colleges were represented

College.	Year Grad	Per Cent.
PASSED		
Howard University (1905) (75 3	(1907)	90 2
Georgetown University (1906) 78 4 (1907) 79 7 84 8 88 6	80 5	
George Washington University (1905) 76 1 80 7 75 5, (1907) 76 3 76 4 77 4 79 80 3 80 8 81 8 84 6 84 8 87 3 89 9	(1906)	81 6
Johns Hopkins Med. School (1900) 84 2	(1904)	70 4
University of Pennsylvania	(1902)	84 4
FAILED		
National University Washington	(1902)	59 2
Howard University	(1907)	72 5
George Washington University (1905) 61 1 (1907) 71 2 72 1 72 73 9		
Baltimore Med. Coll	(1907)	58

Ohio 1907 Reciprocity Report.

Dr George H Matson, secretary of the Ohio State Board of Medical Registration and Examination, reports the reciprocal licenses issued by that board during 1907 The following colleges were represented

LICENSED THROUGH RECIPROCITY

College	Year Grad	Reciprocity with
Howard University Washington	(1902)	Dist. Colum
Northwestern Univ Med School (1905)	(1907)	Illinois
Bennett Coll. of Ecl Med and Surg	(1882)	Indiana
Bennett Coll of Ecl. Med. and Surg	(1906)	Illinois
Rush Med Coll (1904) (2 1906)		Illinois
Hering Med. Coll	(1905)	Illinois
Hahnemann Med Coll and Hosp Chicago	(1905)	Illinois
Coll of P and S Chicago (1904) (1905) (2 1906)		Illinois
Central Coll of P and S Indianapolis	(1905)	Indiana
Physio-Medical College of Indiana	(1904)	Indiana
Indiana Med. Coll (1906)	(1907)	Indiana
Indiana University	(1907)	Indiana
College of P and S Keokuk (1887) (2 1898)		Iowa
Keokuk Med Coll	(1899)	Wisconsin
Kentucky School of Med	(1904)	Nebraska
Medical School of Maine	(1901)	Maine
University of Maryland	(1900)	Maryland
Maryland Med. Coll	(1901)	Maryland
Johns Hopkins Med School	(1907)	Maryland
Univ of Michigan (1902) Maine (1903) (2 1904)		Michigan
Univ of Michigan (3 1905)	(1907)	Michigan
Michigan Coll of Med and Surg	(1906)	Michigan
Detroit Coll of Med	(1903)	Michigan
St Louis University	(1905)	Illinois
Ohio Med University	(1907)	Michigan
Toledo Med. Coll (3 1906)		Illinois
Eclectic Med Inst Cincinnati (1875) Wisconsin (1893) Indiana	(1907)	Iowa
Jefferson Med. Coll (1905) New Jersey	(1906)	Illinois

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION POSTGRADUATE WORK CONTRACT PRACTICE INSURANCE FEES LEGISLATION ETC

Requirements for Medical Legislation

In the Kansas City *Medical Index Lancet* for January appears an article on "State Medical Legislation" by Dr A H Madry, which contains some statements that should be carefully considered Dr Madry says in part

The medical profession stands responsible for the present lack of wholesome legislation Too little thought has been given to the definite ends and aims of medicine and the means of their accomplishment Lack of unity on the part of the medical profession has allowed quackery and charlatanism to develop Dr Kendrick of the Mississippi General Assembly lays down three conditions as essential to the passage of medical laws 1, The medical profession must agree beforehand on what it wants, 2, its action must be endorsed by the medical organizations of the state. 3, individual members of the profession must personally inform senators and representatives regarding the needs and merits of the proposed law It is more important at present for the organized profession, individually

an accident which occurred on October 21st, 1917 He was charging the enemy on horseback His horse stumbled, and he fell on the ground While he was lying on the field, a number of other *sawars* rode past him, and he was kicked by one of the horses in his left thigh There was a huge painful swelling in the left thigh as the result of this injury There was no fever, and the swelling is said to have become smaller during the last month

The patient gave no past history of syphilis, tuberculosis or gonorrhœa, and no history of "cancer" or tuberculosis in the family

On examination, it was observed that the left thigh was distinctly swollen There was a hard irregular circumscribed swelling at the junction of its upper and middle third It was not movable and seemed fixed to the anterior part of the shaft of the femur Superficial layers of quadriceps femoris muscle glided readily over the swelling, which was not tender on palpation, and painful only when the patient walked There was no evidence of any external wound on the surface of the skin

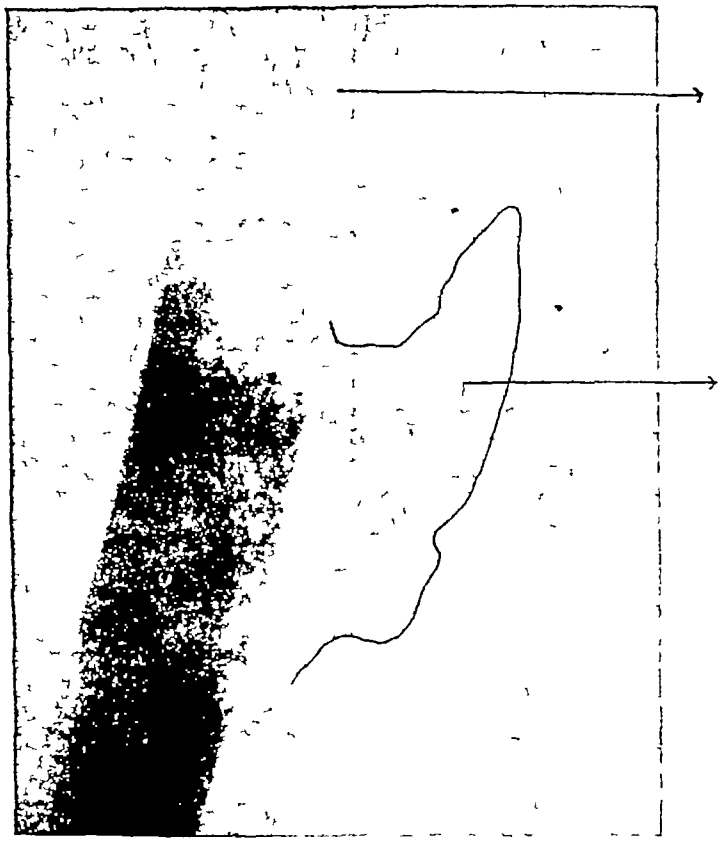
The patient walked with a limp The left leg was kept slightly abducted, and the knee as straight as possible during locomotion The toes pointed outwards and the foot slightly everted The weight of the body fell mostly on right leg There was a dull aching pain in the swelling when the patient walked

The movements of the left hip and left knee were good, and the thigh muscles on either leg were equally well developed

The following table gives a comparison of the circumference of the two thighs at equal distances —

LEVEL	Circumference of left thigh	Circumference of right thigh
	Inches	Inches
6 inches below anterior sup spine	19½	19½
7 " " " "	19	18
8 " " " "	19½	18
9 " " "	18½	17½

The table gives an approximate idea of the disposition of the swelling, which was situated along the length of the shaft of the left femur, and gradually increased in size from above downwards



On palpation, there was no sense of eggshell crackling present in the swelling

There were no other symptoms of disease of the locomotor system , and the nervous, alimentary, excretory, cardio-vascular and respiratory systems were normal

X-ray examination a few days after admission showed "A large irregular new bony formation, which appears to be in front of the femur but not to grow from the bone One cannot actually see between the femur and the growth, but the femur seems quite

Dr Allen J Jervey secretary of the Medical Society of South Carolina, writes that the following action was taken by that society

Resolved, That we heartily endorse the Kentucky resolutions concerning the fight for pure drugs which the American Medical Association has been carrying on so ably and we recommend that the following or similar resolutions be submitted by this society to the House of Delegates of the South Carolina Medical Association

Resolved That the South Carolina Medical Association heartily endorses the formation of the Council on Pharmacy and Chemistry and pledges its zealous support in the earnest and able effort it is making to free the profession and the public from the evils of the nostrum habit

Resolved, That in furtherance of this subject every county society in the state be requested to devote one meeting to this important subject in order to increase the interests and secure the aid of every loyal practitioner in the state and that the editors of the *Journal of the South Carolina Medical Association* be requested to omit from the advertising pages all pharmaceutical preparations which are not manufactured in conformity with the United States Pharmacopeia or the National Formulary until they have been approved by the Council on Pharmacy and Chemistry of the American Medical Association

Resolved, That every physician in the state be urged to obtain a copy of the abridged United States Pharmacopeia and to be guided by it and by the approval of the Council on Pharmacy and Chemistry in his use of medicines

Resolved That the publication of medical journals by those interested in the manufacture of nostrums be condemned and that the physicians of the state be requested not to receive them

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR JOHN H BLACKBURN, DIRECTOR
BOWLING GREEN, KY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course]

Fifth Month.

FIFTH WEEKLY MEETING

Fractures of Neck of Femur

Pathology At small part of neck Infraction or incomplete fracture portion of neck, displacement impaction Complete subcapital fracture lines of fracture displacement impaction deformity At base of neck usually mixed, lines of fracture impaction displacement, rotation

Symptoms Pain, loss of function Swelling, obliterated inguinal fold ecchymosis Outward rotation, causes and degree Shortening causes and degree. Muscular relaxation False motion spreading of trochanter

Diagnosis (1) Age (2) sex, (3) force, (4) shortening, (5) crepitus (6) eversion (7) expansion of trochanter, (8) swelling ecchymosis and tenderness

Pott's Fracture

Pathology Fracture of inner malleolus, outer lower edge of tibia fibula, laceration of internal lateral ligament, eversion of foot

Prognosis Age compound fracture delayed union and non union edema, pain.

Treatment Immediate dressing, plaster or gutter

Colles' Fracture.

Pathology Usual line of fracture, anterior ligament, backward displacement impaction and crushing stripping of periosteum radio ulnar ligaments styloid of ulna Injury to ligaments, synovial sacs, tendon sheaths

Prognosis Influence of age, peri articular adhesions, reposition, condition of lower fragment, plane of articular surface

Treatment Accurate reduction obstacles to overcome, method. Form of compress and splint required.

Book Notices

THINKING—FEELING—DOING By E W Scripture Ph D M D Assistant Neurologist Columbia University Second Revised Edition Pp 261 Cloth New York G P Putnam's Sons, 1907

To one who has not kept in touch with the development of modern psychology with its accurate methods of measurement, this book will come as a surprise that so much definite knowledge can be gained by such simple means It should be read by every medical practitioner and especially by all who wish to perfect themselves in habits of accurate observation and examination To the neurologist, a knowledge of simple and accurate methods for testing nerve processes would be of great value Much may be learned as well regarding our own thought processes For instance, in the first chapter on observation and experiment, Dr Scripture says "To show that everybody is prejudiced let me ask you such questions as Have you not some pet fad on which you are sure you are right and all the rest of the town are wrong? Are you quite sure that there is only one side to the tariff question? Are you not astounded at the fact that some people find a good side to a man you know to be utterly bad? Don't be ashamed to confess The great scientist Faraday did He said 'It is my firm opinion that no man can examine himself in the most common things having any reference to him personally without being made aware of the temptation to disbelieve contrary facts and the difficulty of opposing it'" Probably one of the greatest dangers to which members of the medical profession are exposed is that of dogmatism and intolerance for the opinions of others

The chapters on time and action, reaction time, thinking time, rhythmic action and power and will are most interesting The discussion of the special senses, detailing the experiments used to determine the "threshold" of each is also of great interest to the physician By the term "threshold" Dr Scripture means the point at which the individual first begins to be aware through the evidence of his senses, of the existence of the object used in the experiment For instance, in carrying on experiments regarding smell, a graduated glass tube was used, inside of which was placed a narrow strip of blotting paper moistened with the solution used in making the test A smaller tube was arranged to slide back and forth in the larger From the end of the smaller tube a piece of rubber tubing led to the nose As the smaller tube was gradually pushing into the larger, the person experimented on first perceived an odor but was not able to identify it The point at which the odor was first distinguished indicated the threshold of perception of the individual's sense of smell The point at which the odor was recognized as a distinctive odor indicated the threshold of recognition In this connection Dr Scripture records some very curious facts If two different odors are conducted by separate tubes, one to each nostril, instead of smelling a combination of the two odors, he finds that we can smell either one alternately, but not both at the same time, also that we can smell either odor in preference to the other simply by thinking about it, but that we are unable to think of the same odor steadily, our thought irresistibly turning from one to the other and thus the two odors alternate

In an equally simple manner, the psychology of the different senses is worked out Feelings, attention, memory, suggestion and expectation are also considered A very interesting chapter is devoted to materialism and spiritualism in psychology, while the final chapter discusses the new psychology This book should be carefully read by every physician who desires to be familiar with the advances made in the study of the mind, which advances, in the last twenty five years, have been quite as striking and epoch making as the strides made in the more material lines of knowledge

PRIMITIVE SECRET SOCIETIES By Hutton Webster Ph D Professor of Sociology and Anthropology in the University of Nebraska Cloth Pp 227 Price $2 00 New York MacMillan Co 1908

One is liable to be misled by the title of this book and take it as a work bearing, at least indirectly, on present day secret societies or fraternal orders The adjective "primitive in the title, however, is of more importance than "secret socie

It then occurred to me to strip the sac from the surrounding tissues and to remove the testicle

By placing him in the Trendelenburg position I was able, after dividing the abdominal wall at the neck of the sac, to reduce the whole mass into the abdomen

I then passed a series of No 4 formalin catgut sutures from above downwards through the rectus muscle and its undivided sheath and through the thickened structures on the outer side

About eight of these were inserted and they were tied off, from above downwards Some of these were, of course, through divided internal oblique muscle Owing to the fact that the testis had been removed, one was able to close the gap right down to the crest of the pubes My incision was placed vertically and close to the edge of the rectus and not parallel to Poupart s ligament as is usual

I elevated the foot of his bed by placing the lower bar across the arms of a dining-room chair and kept him in this exaggerated Trendelenburg position for the first three days

He had no recollection of going into the theatre nor did he know that the operation had been performed for 18 hours afterwards

He was only given water for the first 24 hours and a little tea or coffee for another 2 days After that his food was gradually increased On the third day he had some distension which was relieved by glycerine or water enemata Bragg s charcoal in doses of two teaspoonsful was given in water 4 times in the 24 hours and continued for about a week This relieved the flatulence which was inclined to be troublesome I had foreseen this complication as a result of handling of the intestines and knowing how much more troublesome it would have been if the appendix had been removed, for this reason I did not relieve him of this organ The wound healed by first intention and he was walking about at the end of a fortnight

I prescribed a truss fitted with an elongated pad to support the scar

These herniæ of the large intestine are very difficult to deal with and the text books do not help one in the matter So far as I am concerned, the method I adopted in this case is original

A CYST OVER THE STERNUM

By A BAYLEY DE CASTRO,

J M O, Haddo, Port Blair

ON the 11th of October, "X," reported sick with an enormously distended cyst, involving practically the whole length of the sternum It was so very distended that the skin was stretched tense over it, and was positively shining

The growth started two days ago, and kept increasing in dimensions with periods of quiescence

It had never in any way affected the man's health, but now he had to report sick owing to pain This increased amount of tenseness and pain started about a week ago Patient did not hurt himself in any way



The pus which was evacuated was blood-stained, and practically odourless

I do not remember ever having seen a cyst in this situation before, and hence my reason for photographing and publishing the case

The dermoid characteristics were all absent

A CASE OF ACUTE INFLAMMATION OF THE GALL-BLADDER IN WHICH THE GALL-STONES WERE FOUND FRACTURED

By F J W PORTER, D S O (Retired),

MAJOR, R.A.M C

RECENTLY a man of about 40 years was admitted to my nursing home in great pain and obviously suffering from acute inflammation of the gall-bladder

From the history, he had gall-bladder trouble for many years I gave him ½ grain of morphia with hyoscin 1-100 grain, while getting ready for an immediate operation

This produced such profound sleep that I thought it might be possible to operate under local analgesia

As soon as the abdomen was opened, the small bowel forcibly protruded through the small incision I had made in the peritoneum and it showed signs of inflammation I then

German Hospital from 1899 to 1903, chief of the out patient department for diseases of women, German Hospital, and assistant surgeon to Stetson Hospital, died suddenly at his home in Philadelphia, February 3, from heart disease, aged 31

John F Head, M.D Medical School of Harvard University, Boston, 1843 who was appointed assistant surgeon in the Army in 1846, made a captain and assistant surgeon in 1851 major and surgeon in 1860, was brevetted lieutenant colonel in 1865, promoted to lieutenant colonel in 1876, colonel in 1882 and retired by operation of law in 1885, and was made brigadier general, retired in 1904, died February 5, at Nassau, Bahama Islands, aged 87

John L Handley, M.D Jefferson Medical College, Philadelphia, 1858, a veteran of the Civil War, afterward a practitioner at Mount Erie, Ill, circuit clerk of Wayne County and master in chancery, later superintendent of mails, and health officer of Denver, Colo, and for the last eleven years supreme vice president of the Fraternal Union of America, died at his home in Denver, January 17, from appendicitis, after an illness of two days, aged 75

Charles Worthington Goldsborough, M D University of Maryland School of Medicine, Baltimore, 1863 a member of the Medical and Chirurgical Faculty of Maryland and Frederick County Medical Society, a member of the board of directors of the Emergency Hospital and of the Board of Visitors of the Deaf and Dumb Asylum, Frederick City, Md, died at his home in Walkersville, Md, February 6, from cerebral hemorrhage, aged 66

Mary Wood Allen, M D University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1875, world's superintendent of the moral educational department of the Woman's Christian Temperance Union, for many years a resident of Ann Arbor, Mich, died at a sanatorium in Washington, D C, January 21, from pleuritic effusion and pulmonary edema, after an illness of nearly three months, aged 67

Leo Danziger, M.D Medical College of Ohio, Medical Department of University of Cincinnati, 1892, a prominent German practitioner of Cincinnati, and a member of the Ohio State and Hamilton County medical societies aged 36, was shot and killed February 14 by the uncle of a patient on whom a criminal operation had been performed, and whom Dr Danziger was afterward called to attend

Charles Clifford Holcombe, M.D Medical Institution of Yale College, New Haven, 1854 a member of the Massachusetts Medical Society, and once president of the Berkshire District Medical Society, first medical examiner of the middle Berkshire district, for several years president of the Lee National bank died at his home in Lee, February 1, from heart disease, after a long illness aged 78

Lawrence Edward Holmes, M.D University of Pennsylvania, Department of Medicine Philadelphia 1897 a member of the medical societies of the State of North Carolina and Buncombe County Medical Society, for several years resident physician of the Clarence Baker Memorial Hospital Biltmore, died at his home, February 5, from pneumonia, after an illness of six days, aged 34

Carl G A. Hullhorst, M D University of Iowa, College of Homeopathic Medicine Iowa City 1882 formerly a minister of the Presbyterian Church and later a practitioner of Lincoln Neb died at the State Hospital for the Insane Lincoln, from injuries received by a plunge into a creek near the hospital while of unsound mind, February 6, aged 60

Ridley C Paine, M.D University of Michigan Department of Medicine and Surgery, Ann Arbor, 1884 a member of the Colorado State and Conejos County medical societies, formerly of Bethel N Y, and Antonita, Colo, died at the home of his brother in Oneida, N Y February 2, from lung disease, after an illness of several years, aged 56

John C Brigham, M D University of Georgia Medical Department, Augusta 1869 a member of the Medical Association of Georgia and Burke County Medical Society, was burned to death while endeavoring to recover his medicine case and some valuable papers in a fire that destroyed his home in Girard Ga, January 30, aged 61

Newton Diehl Baker, M.D University of Maryland School of Medicine Baltimore 1868 a member of the West Virginia State Medical Association and Berkeley County Medical Society a Confederate veteran and secretary of the State Board of Health of West Virginia for 15 years died at his home in Martinsburg February 4, aged 65

William Henry Douglass, M D University of Missouri Medical Department Columbia 1878, Bellevue Hospital Medical College, New York City, 1880, a member of the American Medical Association, and a prominent practitioner of Columbia, Mo, died at his home in that city, January 28, from pneumonia, after a short illness, aged 53

Henry Preston Sharp, M D Eclectic Medical Institute, Cincinnati, 1876, a member of the medical societies of the State of New York and County of Wyoming, coroner for many years of Wyoming County, and at one time president of the village of Arcade, N Y, died at his home, January 29, after an illness of one week, aged 53

Charles Hamilton Morse, M.D Medical School of Harvard University, Boston, 1864, a member of the Harvard Medical Alumni Association, for many years a practitioner of Weymouth, N S, died at his home in Marquette, Mich, February 3, from cerebral hemorrhage, after an illness of five months, aged 70

Z W Wyatt, M D College of Physicians and Surgeons, Baltimore, 1884, a member of the West Virginia State Medical Association and Harrison County Medical Society, a member of the legislature in 1900 and 1901, died at his home in Shinnston, W Va, January 31, after an illness of several weeks, aged 61

Stacy Dwight Williamson, M.D College of Medicine, Syracuse (N Y) University, 1901, a member of the American Medical Association, died at his home in Malone, N Y, recently from the effects of morphin supposed to have been self administered, with suicidal intent, while temporarily insane, aged 31

Charles A Bolz, M D Albany (N Y) Medical College, 1883, a member of the Medical Society of the State of California and Sonoma County Medical Society, a hospital steward in the Army from 1872 to 1900, died at his home in Petaluma, Cal, from heart disease, February 2, after a long illness, aged 58

Martin James Dalton, M D University of Vermont, College of Medicine, Burlington, 1898, of Melrose, Mass, a member of the Massachusetts and Middlesex District medical societies, visiting physician to the Melrose Hospital, died recently in Tryon, N C, where he had gone for his health, aged 49

Thomas C Neat, M D Medical College of Ohio, Medical Department University of Cincinnati, 1863, a member of the Indiana State Medical Association and Floyd County Medical Society, died at his home in New Albany, Ind, February 1, from heart disease, after an illness of two days, aged 65

Hannibal Parish Wheatley, M.D University of Vermont, College of Medicine Burlington, 1881, of Farmington, N H, a member of the New Hampshire and Stratford County medical societies, died suddenly in Los Angeles, Cal, from heart disease, January 29, aged 50

George H Fuller, M D Northwestern University Medical School, Chicago, 1869, a hospital steward and afterward lieutenant of the line during the Civil War, a member of the American Medical Association, died at his home in Delhi, Iowa, January 31, aged 66

Buford D Black, M.D Rush Medical College, Chicago, 1897, a member of the American Medical Association, and one of the most prominent practitioners of New Mexico, died at his home in East Las Vegas, from pneumonia, February 6, after a brief illness, aged 33

Clara E Bowen, M D University of Buffalo (N Y) Medical Department, 1892, of Buffalo, N Y, a member of the medical societies of the State of New York and County of Erie, died at the German Hospital, Buffalo, after a surgical operation, Dec 28, 1907, aged 47

Beverly M Beckman, M D University of Missouri, Medical Department, Columbia, 1850, one of the oldest practitioners of Shelby County, Ky, died at his home in Shelbyville, February 1 from senile debility, after a gradual decline of several years, aged 82

Benjamin F Tiefenthaler, M D Medical Department of Columbian University, Washington D C 1899, a member of the Medical Association of the District of Columbia died at his home in Washington February 8, from acute nephritis

William J Best, M.D University of Maryland School of Medicine Baltimore 1856 a member of the Medical Society of Virginia and Frederick County Medical Society, died at his home in Brucetown, Va, February 5, aged 73

William Dana Gross, M.D University of Pennsylvania, Department of Medicine, Philadelphia, 1896 died at his home in Philadelphia February 8 from septicemia due to an operation wound received three weeks before, aged 40

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OPOLAXYL
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A liquid extract from Cinchona Succirubra. Contains 5% of Quinine Alkaloid

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Tablets for Boils, Carbuncles and Staphylococcal Affections

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To be diluted for Lotion for Acne, etc

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Crystallisée Granules, Cardiac Tonic.

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Intramuscular Injection for Tuberculosis

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Stable suppositories of "606" Simple and effective

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Contains the pure phosphates of lime and magnesia

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Powerful Urinary Antiseptic dissolves and eliminates Uric Acid

Tested and Approved in accordance with L.G.S requirements

INTRAVENOUS. **GALYL** IS THE SAFEST OF ALL ARSENICAL COMPOUNDS IN **SYPHILIS** INTRAMUSCULAR

(*Vide* Presidential Address, British Pharmaceutical Congress 10th July 1918)

tate, or removing the gland Chronic cystitis, when associated with disease or injuries of the spinal cord can not be cured Tuberculous or cancerous cystitis can not be cured Hygienic measures, stimulants, hydrochloric acid, pepsin or pancreatin are all of value Turkish baths and washing of the bowels are also good All diseases, especially of the heart should receive attention Fatigue should be guarded against, and climatic influence should not be forgotten He is in favor of diluting, antiseptisizing and acidifying the urine Copaiba, sandalwood and oil of gaultheria alone or combined are helpful Irrigations, instillations and drainage by catheter have a place in treatment The bladder should not be distended forcibly The hand syringe is preferable for this purpose Normal saline solutions, sodium carbonate or even sterile water solutions may be used until the fluid that returns is clear The amount given should be measured and no pain should be occasioned A bladder with a large amount of residual urine may hold from eight to ten ounces without distension A small amount of the solution should be left in, and the strength of the solution increased gradually One irrigation daily is usually sufficient. Operative work is to be considered when local and constitutional measures fail A cystoscopic examination should be made before giving a prognosis

Operation in Malignant Disease of Skin.

DR SAMUEL SHERWELL, Brooklyn, recommends simple deep and thorough curettage, followed by the immediate and thorough application of an escharotic He prefers 60 per cent. solution of acid nitrate of mercury The caustic agent must be neutralized by some alkali as sodium bicarbonate The scab is allowed to remain until it falls off The knife is sometimes preferable in pendant and loose portions of the body, as the penis, lips and ears He has employed this method for thirty five years, and has had very few recurrences In cases where general anesthesia is necessary, he prefers nitrous oxid He introduces two or three drops of a 2 per cent solution of cocain about the edges of the affected part, and gives one-quarter to one third grain of morphin, with or without atropin, in a distant part of the body before giving the general anesthetic He used a Paquelin cautery and a solution of one part of fluid adrenalin and three parts of a 10 per cent solution of cocain to check persistent bleeding This he follows by acid nitrate of mercury in full 60 per cent strength, mopped on with cotton wool mops He sometimes allows the acid nitrate of silver to remain ten to twenty minutes before neutralizing The bicarbonate of soda should be firmly pressed into the wound so as to make an adherent scab The wound is kept dry, but no bandages are used After a day or two inflammation follows, but no wet dressing must be used as the inflammation soon subsides He is of the opinion that fewer recurrences resulted after this method than when the knife is used A course of arsenic treatment is given for a long time after the operation Relapses occurred in less than 10 per cent of his cases

What the Rigid Inspection of Milk Is Doing for New York City

MR WILLIAM E BURTON, New York, in charge of dairy inspection, department of health, said the milk supply of the city is obtained from Vermont, Massachusetts, Connecticut, New York, New Jersey and Pennsylvania being brought into the city by ten different railroads The farthest point from which milk is brought is 415 miles The trains arrive late in the evening and milk is removed early the following morning About one and three-quarters million quarts are used daily, and about 50 per cent of this is in bottles Milk could not be sold without a board of health permit Prior to 1904, the efforts of inspectors had been almost entirely directed toward securing a chemically pure milk supply, but no systematic method was followed In 1904 two inspectors were detailed to inspect all places where milk was handled and to report on abuses Such abuses were found at one creamery in Orange County as led to the revocation of the permit of the company Since this experience official trips have been made over the large milk carrying roads New regulations have been adopted by the board of health built on the word "cleanliness' They require sanitary buildings for the housing of cattle, a pure water supply, proper facilities for cooling the milk and preventing its exposure to air as much as possible No person suffering from a contagious disease or in attendance on one is permitted to handle milk or utensils In June, 1906, the systematic inspection of dairies was commenced, and regulations were adopted covering the care of cows, stables, water supply, milkers and utensils All cattle must be examined by a veterinary, and a report filed with the health department. The regulations now in force could not be considered oppressive and were necessary to surround the production of milk with due precautions If inspection shows unsatisfactory conditions, the dairyman is given a reasonable time to make necessary improvements, if the conditions are bad, the time is shortened If the improvements are not made, the milk from such a dairy is refused entrance into the city It is the duty of the physician to report all cases of typhoid fever, and if, by exclusion, the milk is found to be responsible, a thorough inspection is made On March 13, 1907 resolutions were adopted requiring creameries to furnish a report to the health department stating the existence or non existence of typhoid fever, tuberculosis, scarlet fever, diphtheria, dysentery or any other infectious disease in the households of all persons employed in collecting or handling the milk, and milk stations must require similar reports from their sources of supply Considerable opposition had been met with and it is a question whether this regulation can be enforced without a branch of medical inspectors to control this work Last year a section was added to the sanitary code requiring all persons to clean milk receptacles used in the delivery of milk immediately on being emptied The enforcement of this section has done much toward assisting in the preparation of clean milk.

(*To be continued*)

Medicolegal

Railroad Companies Not Liable for Wrongful Mutilation by Surgeon

The Court of Appeals of Georgia in Louisville & Nashville Railroad Company and others vs Blackmon, says that a surgeon, being sent by two railway companies to a wreck to give professional attention to an engineer who had been injured, caused him to be moved to a hospital, where he soon died After the death had occurred he ordered the body carried to an undertaker's establishment, and there he and the undertaker, without the consent of relatives, mutilated the corpse Under the allegations in the case there could be no question as to the liability of the surgeon and undertaker, who participated in the alleged mutilation The question was Were the *two railroad defendants liable for the acts of their surgeon who* committed the mutilation of the body? The court holds that they were not

Conceding that a surgeon of a railway company is such a servant as to be within the purview of section 3817 of the Civil Code of Georgia of 1895, which provides that "every person shall be liable for the torts committed by his servant by his command, or in the prosecution and within the scope of his business, whether the same be by negligence or voluntary," still the court can not hold that the tort (wrong) complained of here was within the scope of the business for which the servant was employed Whether the railway companies furnished surgical attention to the engineer for the purpose of diminishing the effect of an injury for which they apprehended they might be held liable, or as a mere gratuity, the business entrusted to the surgeon was that of ministering to a living man, and, when death had rendered all further ministration unavailing the duty and business with which he had been entrusted by the railway companies were at an end. Certainly the limit to the scope of his authority was reached when he had closed the dead eyelids down, and had delivered the body to him to whom next in natural order the corpse should go—the undertaker A case might arise in which a railroad company would be liable for the mutilation of a dead

good health and were married to one another when he was as young as twenty years These white patches started about ten years ago as a single small white spot on the dorsum of the right hand In four years it became rupee size and was followed by two more, one on the left hand and another on the lower lip The progress of extension was very slow For these unsightly patches he tried several *kaviraji* and *hakimi* medicines as also European ones without effect, and among the latter I may mention "thyroid extract" the remnants of which were shown to me during my visit

There was nothing noteworthy in the family history

On examination, I found, on the dorsa of the hands, a white patch about 3 in by 1 in on the right, a rupee sized one on the left and an irregular one under the lower lip In each of these patches the skin was white in colour with deep dark margins—very smooth There was no thickening, no loss of elasticity and no loss or perversion of sensation of any kind (pain, pressure, touch and temperature) The history of sterility led me to examine the generative organs in particular, but they were found normal in shape size and situation Other systems—nothing particular

The doubtful etiology of the disease, the history of sterility and the failure of thyroid extract alone, led me to think of pluriglandular (testes+thyroid or some more) insufficiency I decided to try "Hormotone," a pluriglandular extract One tablet, three times a day, before meals, three weeks a month (to prevent excessive accumulation) was ordered After three months (*i e*, in August) the patches were found to be darker and less shiny than before In November 1921, only a trace of the oldest patch in the right hand could be distinguished, the other two having disappeared and no new ones appeared There were no untoward symptoms during this long period of medication and the patient has been advised to continue one tablet a day, three weeks in each month for three months more As the patient refused permission, no photograph could be taken, to my disappointment

Points to note in this case are —

(1) Association with sterility

(2) Failure of thyroid alone, but success when combined with others

My query on conclusion is Is leucoderma a manifestation of deficiency of internal secretions as scleroderma is believed to be in recent years ?

NOTE ON A CASE OF A TYPHUS-LIKE FEVER OCCURRING AT MURREE

By H C KEATES, MD, BS (Lond.),

MAJOR, I M S

I HAVE read with great interest the Editor's article in the *Indian Medical Gazette* of October 1921 I had a case similar to those described by McKechnie, in Murree, in June 1920 Being on leave and not having access to my notes, I must perforce write from memory, but still, I think the case will be found interesting A European lady, aged about 55, residing in her own house, became ill some three weeks after her arrival in Murree and called me in to see her on account of sore throat and fever The temperature on the first day was 102°, the pulse was 90 The fauces were injected and both tonsils somewhat swollen The condition of the throat improved with potassium chlorate gargle and application of tannic acid, but the temperature remained raised and patient suffered from general malaise On the morning of the 4th day, she became much worse, complained greatly of frontal headache, pain at the back of the eyes and bach-ache which was so severe that I suspected small-pox Her face became flushed and conjunctivæ injected so much so that she had the appearance of the pre-eruptive stage of measles However, that evening a rash appeared chiefly on the fore-arm and legs and the back of the hands and upper surfaces of the feet The rash consisted of macules averaging about one-fifth inch in diameter of a dusky red colour and fading on pressure The chest and abdomen remained clear The temperature was 103° and remained between 102° and 103° till the end of the attack On the 6th day it was noticed that many of the spots had become distinctly purpuric in character and no longer faded on pressure, also some purpuric spots had appeared on the palms of the hand and the soles of the feet The rash spread up both thigh to the buttocks and up both arms to the shoulders The macules, at first discrete, here and there showed a tendency to become confluent The chest, abdomen and back remained free from the eruption throughout the illness At about the same time it was noticed that the patient had a very disagreeable mouse-like odour The bowels were constipated, requiring purgatives The urine was of febrile character but otherwise normal, examination of the blood did not reveal any parasites or leucocytosis and the leucocyte count was normal The patient looked and felt very ill Her cheeks became puffy and the skin of a dusky red colour, though there were no distinct macules or purpuric spots as on the extremities The pulse rate never rose above 100 The tongue was thickly coated with white fur and tremulous, headache was pronounced preventing the patient from sleeping and requiring phenacetin The conjunctivæ had a slight icteric tinge, In fact the facies was a very distinctive one and I can see it clearly now as I write The spleen was not enlarged On the 12th day the temperature began to decline by lysis and on the 14th day became and remained normal The rash slowly disappeared and by the end of

itself sufficient to warrant a tentative diagnosis, which can be definitely settled by administration of tuberculin, preferably after the patient has started treatment Tuberculin as a diagnostic agent should be more generally employed Calmette's method though not absolutely conclusive, furnishes a simple and readily available test which can be supplemented on negative results by more exhaustive measures

8 Exophthalmic Goiter—Weber has had three cases in which practical cure was produced by the administration of 1/60 grain (1 mg) of arsenic combined with the same amount in tablet form of mercury perchlorid, taken three times a day Signs of improvement in the first case appeared about a month after beginning the remedies, and the patient continued them with little interruption for nearly three years, when complete recovery ensued, which has now lasted two years

Boston Medical and Surgical Journal

February 6

9 *Treatment of Sarcoma with Mixed Toxins of Erysipelas and Bacillus Prodigiosus W B Coley New York
10 *Treatment of Leukemia with Mixed Toxins of Coley R C Larrabee Boston
11 *General Paralysis as a Menace to Public Safety in Transportation P C Knapp Boston
12 Direct Examination of the Larynx and the Upper End of the Esophagus by the Lateral Route H P Mosher Boston

9 Mixed Toxins in Sarcoma—Notwithstanding the success which has attended the use of mixed toxins at the hands of a large number of physicians in cases of inoperable and apparently hopeless sarcoma, and as a prophylactic against recurrence after primary operations, Coley finds that the method is still unknown to the majority of medical men He, therefore, deals in this paper with the practical aspects of the subject In the first place he says, it has been shown to have a curative effect sufficient for practical purposes only in cases of sarcoma and not in those of carcinoma The treatment is applicable in certain inoperable cases, and as a prophylactic against recurrence when the sarcoma has been removed by operation The prospects of success are considerable He records his own experience in 430 cases to show that there is no appreciable risk He describes the preparation and care of the toxins and the method of treatment in inoperable sarcoma In certain operable cases namely, such as involve the long bones, in the hope of avoiding operation, and after operation as a prophylactic against recurrence in which last group the method seems to have some place even in carcinoma. He describes three cases

10 Mixed Toxins in Leukemia—Larrabee reports his results with the use of Coley's mixed toxins in five cases of leukemia and his reasons for hoping that favorable results might follow therein The results were as follows Case 1, most gratifying, Case 2 little improvement Case 3, not so good as Case 1, but distinctly "worth while" Case 4, no change, Case 5 (one of the acute lymphatic type) no results the patient ultimately dying It must be borne in mind that the agent is very powerful In all his cases arsenic had been used without avail He is unable to say whether the toxins will compare favorably with the excellent results sometimes afforded by *x* rays but so far they have been encouraging enough to justify further trial

11 General Paralysis and Public Transportation—Knapp's investigations have led him to note that of a considerable number of general paralytics in public institutions a dangerous proportion is found among people engaged in various means of public transportation Other forms of chronic brain disease in the early stages are also well represented in such services He quotes instances of errors on the part of engineers such as might easily be attributed to such conditions He suggests that men in responsible position on transportation systems should be subjected to thorough examination at regular intervals by competent neurologists

New York Medical Journal.

February 8

13 *The Hand as a Therapeutic Agent J M Taylor Philadelphia
14 *Is Sterilized Milk a Safe Food for Infants E. M. Sill New York
15 Therapeutic Use of Soured Milk. H Emerson New York.
16 *Uric Acid Formation Elimination and Effect on General System E E Smith New York
17 *Internal Medicine Some of Its Present Aspects and Achievements G W McCaskey Fort Wayne Ind
18 *Indications for Water in Childhood M Barbour Philadelphia
19 *Contracted Pelvis as Cause of Dystocia J O Polak Brooklyn N Y
20 *Nervous and Mental Manifestations Incident to School Life W R Dunton Jr Towson Md

13 The Hand—Taylor declares that the hand is a most important instrument for the physician, albeit a most neglected one Manual operations have been left altogether too much first to quacks, and later to more or less unqualified persons—unqualified, that is, in all respects beyond the mere technic of their application So important are intelligent, judiciously applied massage passive movements, stretching torsions, etc., that the laity recognizes their utility more clearly than members of the medical profession Taylor refers to the powerful effects capable of being wrought on the vasomotor and viscero motor mechanisms of the centers of the cord the subsidiary centers, the exposed points in nerves and ganglia when intelligently operated on by an experienced physician Here a knowledge of the governing mechanisms is required, along with familiarity with the natural history and phenomena of disease, such as is assumed to be the possession of the expert clinician Even when the physician prescribes their use by others he should know how to prescribe them in detail according to the actual requirements of the individual case, just as he does not leave the quantities of the drugs and the directions for their use to the pharmacist, but details them in the prescription Taylor discusses manual operations as aids to diagnosis and treatment, and also massage and passive movements The points which should be borne in mind in regard to massage are 1 The rate of movements 2 Depth and gradation of pressure 3 Quality of skin touch 4 The length of time consumed 5 The kind and degree of exposure of the parts 6 General massage is exhausting to invalids, especially to convalescents

14 Sterilized Milk.—Sill concludes for reasons given as the result of careful clinical observations, chemical research and bacteriologic findings, that the advantages of raw milk, when properly used, far outweigh any advantages which highly heated milk may possess, and if the milk is heated it should never be raised above 140 degrees F for twenty or thirty minutes

16 Uric Acid—Smith goes into the physiologic chemistry of uric acid and points out that it is not an important factor constitutionally in disease, but that its pathogenic results are confined to cases in which it is deposited in the tissues, such as tophi or infarcts, or as embedded crystals, and produces mechanical injury It is possessed at most of only the slightest degree of toxicity The amount of uric acid found in the urine is no measure whatever of its import as a morbid factor in the case

17 Internal Medicine—McCaskey describes the revolution in medicine effected in less than a generation, and says that internal medicine must now be considered as a specialism, just as surgery is This does not lessen the sphere of the general practitioner, who must ever continue, as he is now, the high priest of the domestic sanctuary He should know something of all the specialties, enough to decide whether or not his patients need the special diagnostic and therapeutic resources of any one of them

18 Water in Childhood—Barbour urges the importance of giving children both in health and disease, more water than is now commonly done

19 Contracted Pelvis—Polak emphasizes certain points in pelvimetry and cephalometry and further says that in primiparæ when there is a normal relation between the head and the pelvis, the presenting part descends into and engages in the pelvic cavity during the last week or two of pregnancy, consequently when the head is not engaged in a primipara at the beginning of labor something must be wrong This rule, he says, has no exception Any of the following causes will prevent the head from being found engaged A contracted pelvis a large head a small child excessive liquor amnii, malpositions of the fetus, multiple pregnancy, and placenta prævia

visit on inspection was a visit by a friend whose breezy personality was always welcome and whose cheery optimism, coupled with a whimsicality of expression and outlook, never failed to act as a mental tonic "Cheery oh!" was an expression ever on his lips and epitomized his outlook on life. Modest and unassuming himself, he was always ready to give credit to others Sympathetic and helpful, he threw himself into the work of his subordinates, and, without obtruding his authority, indentified himself with their schemes and took endless trouble to forward them, and extracted the best from them by the magnetism of his cheery character Again and again he went out of his way to help lame dogs over official stiles, and withal so pleasantly and unostentatiously that when the particular stile was surmounted it was difficult to appraise his help at its proper value His department has indeed lost not only a levelheaded chief but a true friend who cannot be replaced

It was a privilege to have worked under him—he would have said *with* him—and now he has gone and many are saddened by the thought that they will never hear his hearty laugh again or listen to his genial philosophy Peace to his ashes Another sterling good fellow has gone to his long home

"Dear friend, thy memory blossoms in my heart for ever,
Thy merry laugh will still sound in my ear"

E A R N

The *Calcutta Gazette* contained the following Resolution of the Government of Bengal (Medical Department) —

By the death of Major-General William Henry Bonner Robinson, CB, KHS IMS, the State has lost the services of a distinguished public servant and the Governor and his Minister (Medical Department) desire to place on record an expression of their regret at this grave loss and their sympathy with his widow and children Major-General Robinson was born at Kingstown Dublin, in December, 1863, and entered the Indian Medical Service in 1886 In his earlier years, he saw active service in Upper Burma, in the Chin Hills, at Chitral and in Waziristan He served with the 34th Pioneers in the Tirah Expeditionary Force as their Medical Officer

Under the Foreign Department he served as Residency Surgeon of Alwar, Bikanir, Jaipur and Marwar and subsequently as Chief Medical Officer in Rajputana In 1914 he went with the Indian Expeditionary Force to Egypt as Deputy Director of the Indian Medical Service where his services were rewarded by the conferment of the Companionship of the Order of the Bath On return to civil duty, Major-General Robinson held the post of Inspector-General of Civil Hospitals in the Central Provinces and on March 12, 1918, he was appointed Surgeon-General to the Government of Bengal In 1921 he officiated as Director-General of the Indian Medical Service

Throughout his service Major-General Robinson enjoyed the esteem and confidence of those under whom he worked, while his qualities won him the loyal co-operation of his subordinates He was an able administrator, sound in judgment and endowed with a quick grasp of essentials and a strong sense of what was practical In private life his attractive personality won for him many friends

The Governor and his Minister (Medical Department) desire to record their high appreciation of General Robinson's valuable services to the State and to the cause of Medical Education in India

NOTICES

I

NEWTON AND CO, of London, have lately brought out a series of Demonstrator's Lanterns In this connection one of their trained assistants is visiting India with a view to showing off the apparatus made by this well-known house He is at present lecturing at Lawrence and Mayo's in Calcutta and will be glad to give demonstration to medical men who are interested

II

The following medical men, women and nurses were the recipients of the honours noted against their names in the list of January 1, 1922 Our hearty congratulations go to them

Lt-Col Hutchinson, CIE
Lt-Col Entrican, CIE
Doctor Beals, Kaiser-I-Hind (Gold)
American Marathi Mission, Bombay
The Rev Thomas, Kaiser-I-Hind (Gold)
Baptist Medical Mission
Miss Ruth Darbyshire, Kaiser-I-Hind (Gold)
Supdt of Lady Minto's Nursing Association
Capt Todd, Kaiser-I-Hind (Silver)
Commissioner for Boy Scouts, Bombay and Hyderabad
Doctor Miss Adelaide Woodward, Kaiser-I-Hind (Silver)
Memorial Hospital, Fatehgarh
The Rev Doctor Rivenburg, Kaiser-I-Hind (Silver)
American Baptist Mission, Assam
Miss Jeanie Newton, Kaiser-I-Hind (Silver)
Supdt, Victoria Jubilee Hospital, Kotah
Verghese Verghese, Rao Bahadur
Civil Surgeon, South Kanara, Madras
Dr Jagat Singh, Sardar Sahib
Rawalpindi, Punjab
Thakur Ramdhari Singh, Rai Bahadur
Medical Practitioner Motihari, Bihar
Rajendra Nath Basu, Rai Bahadur
Civil Surgeon, Palamau, Bihar

or after the meal Oil lowers the gastric secretion both by reflex central inhibitory stimulation and by mechanical action

25 Aortic Insufficiency—Stewart reports an elaborate investigation into the pulse and blood pressure changes in aortic insufficiency, which he summarizes as follows The work of Henderson is confirmed, in that the cardiac cycle is not diphasic but triphasic, and consists of systole, the period of the ventricular discharge, diastole, the period of ventricular relaxation and filling, diastasis, the period of rest The effect of the production of aortic insufficiency in the dog is to increase the amount of systolic output by only a fraction of a cubic centimeter of blood The volume of blood which regurgitates is negligible The transmission of pressure to the ventricle increases the ventricular tonus It also produces a reflex inhibition of the vasomotor center The fall of pressure in aortic insufficiency is due to the diminished peripheral resistance thus induced, and is not caused by loss of blood from regurgitation The increase of pulse pressure—the difference between maximum and minimum pressure—is due to a lowering of the diastolic pressure There is no increase in the systolic pressure The main fall in pressure is systolic in time and is due to an increased blood flow through the capillaries So long as the tonus of the ventricle is maintained, a slowing of the heart rate does not favor regurgitation

Surgery, Gynecology and Obstetrics, Chicago

January

26 *Treatment of the Pedicle and the Ureter in Nephrectomy J Bland Sutton London Eng
27 Treatment of Chronic Diseases of the Stomach B G A Moynihan Leeds England
28 *Radiograms of Syphilis of the Long Bones M W Ware New York
29 *Case of Peritoneal Pseudomyxoma E A Schumann Philadelphia
30 *Pancreatic Diabetes and its Surgical Treatment. P J Cammidge London England
31 *Pancreatic Catarrh and Interstitial Pancreatitis in Their Relation to Catarrhal Jaundice and Also Glycosuria A. W M Robson London England
32 *Peptic Ulcer of the Jejunum F G Connell Oshkosh Wis
33 Megacolon (Hirschsprung's Disease) C Wagner Chicago
34 *Lacerations of the Perineum F McDonald New York.
35 *Medical and Surgical Treatment of Gallstones Their Scope and Relations J B Deaver Philadelphia
36 Excision of the Knee Joint A H Ferguson Chicago
37 Cholecystotomy and Cholecystectomy as Practiced in the Clinic of Mr Moynihan H Collinson Leeds Eng
38 Another Method for Forming Gastric Fistula R T Morris New York

26 Nephrectomy—Bland Sutton asserts that the great point in the ordinary method of dealing with the pedicle is to avoid including in the ligature any portion of the kidney pelvis When, however, the pelvis is greatly dilated with many vessels spread out over its circumference, all these long vessels crossing the dilated pelvis require to be seized with hemostatic forceps and tied separately with thin silk The author has on many occasions seen no care taken to isolate the pelvis but it has been transfixed with the pedicle needle This not only makes an extremely thick pedicle but is fraught with another danger if the kidney is being removed for septic trouble, for the ligature will become septic and probably slough or infect the veins, which in consequence will become filled with septic thrombi By carefully clamping the ureter and isolating the pelvis, the vessels may be easily isolated and ligated without in any way infecting the wound by leakage of septic matter from the ureter or renal pelvis To show how successful careful attention to the pedicle may make the operation of nephrectomy, Bland Sutton mentions that during the last seven years he has performed fifty eight consecutive nephrectomies with recovery

28 Abstracted in THE JOURNAL, Oct 12, 1907, page 1306

29 Peritoneal Pseudomyxoma.—Schumann summarizes his paper as follows The foreign body peritonitis of certain observers peritoneal pseudomyxoma, and secondary myxoma of the peritoneum are different stages or phases of one and the same condition The disease depends *per se* on the presence of a ruptured multilocular cystadenoma of the ovary It is a dangerous disease both as to immediate postoperative results and also by reason of its tendency to recurrence and to the development of cachexia Inasmuch as it histologically corresponds accurately with the processes of cancer formation peritoneal pseudomyxoma must be regarded as a form of carcinoma

30 Pancreatic Diabetes—Cammidge discusses the pancreatic theory of diabetes and concludes that as it stands at present it does not meet every difficulty or open a royal road to the cure of disease. It makes clear, however, many points in the etiology that were formerly obscure and suggests means by which the old adage "prevention is better than cure," may be applied to many cases of this troublesome and fatal disease

31 Pancreatic Catarrh.—Robson brings forward further evidence in support of his previously expressed views that while many of the ordinary cases of acute catarrhal jaundice are pancreatic in origin, nearly all, or possibly all cases of so called catarrhal chronic jaundice are due to catarrh of the pancreas or to interstitial pancreatitis As regards the relation of interstitial pancreatitis to glycosuria, Robson considers the latter not a common symptom of pancreatic disease and not one that can be relied on as a diagnostic symptom When present it indicates a serious though not necessarily hopeless condition Such pancreatic glycosuria occurs only when the greater part of the pancreas has been removed or destroyed which is particularly the case in chronic interstitial pancreatitis of the interlobular type, following obstruction of the ducts by calculi and produced by ascending catarrhal inflammations from the duodenum Interacinar pancreatitis involving the islands of Langerhans gives rise to glycosuria at an earlier stage The delay in operation or lack of drainage of bile ducts may cause an original interstitial pancreatitis to pass on into the interacinar variety He, therefore, considers it unwise not to drain the bile duct thoroughly, the drainage continuing until the bile becomes free from organisms and its normal route is free from obstruction In a very large percentage of the cases the removal of the cause, together with drainage of the bile ducts, or in the absence of a removable cause simple drainage of the bile duct alone, is an operation that may be safely recommended in suitable cases that have failed to yield to general treatment

32 Abstracted in THE JOURNAL, Jan 18, 1908, page 232

34 Laceration of the Perineum.—McDonald discusses in detail the causation, prevention and treatment of perineal lacerations under the following heads 1, Rapid delivery, 2, relative disproportion, 3, faulty mechanism, 4, forceps With regard to the last cause, the harm caused depends on the kind of forceps and whether the operator delivers the head with the forceps or not The Simpson type of long bladed forceps is apt to cause laceration in two ways 1, In consequence of the breadth between the shanks on a backward pull unduly stretching the outlet, 2 the non approximation of the blades to the head, so that the edge impinges on the vaginal floor The secret of success in the prevention of perineal lacerations is to keep the mucous membrane intact, that of avoidance of tears in forceps delivery is the use of proper forceps and the removal of the forceps as soon as the head can be controlled by the hand McDonald prefers solid blade forceps after the Tucker MacLane model The article is elaborately illustrated with diagrams, and the technic of repairs is described

35 Gallstones.—Deaver takes occasion to emphasize the importance of the collaboration of the internist and the surgeon While the ideal treatment of gallstones is undoubtedly by surgical procedure it would be folly to assert that all cases should be subjected to such treatment without delay It is the demonstration of the living pathology that has brought about our present understanding of gallstones The surgeon has been the first and foremost privileged to appreciate what grave lesions and pathologic processes may exist with few marked symptoms and even these may be masked until they suddenly show their effect too late for treatment to be of avail Deaver discusses briefly the medical treatment of gallstone disease, which may aim to reduce inflammation of the gastrointestinal tract, to favor elimination of toxins and to guard against dietary and other indiscretions Much can be done by medical means to build up the patient, reduce the effects of cholemia and prevent recurrence of attacks of colic not to mention relief of acute pain but that the gallstones can be broken up, dissolved removed or otherwise done away

Indian Medical Gazette.

MARCH

THE CALCUTTA SCHOOL OF TROPICAL MEDICINE AND HYGIENE

THE formal opening ceremony of the Calcutta School of Tropical Medicine and Hygiene and of the Carmichael Hospital for Tropical Diseases was performed by His Excellency the Earl of Ronaldshay, Governor of Bengal, on the 4th of February, 1922

There was a large and distinguished audience which included most of the leading citizens of Calcutta

This event is worthy of more than passing notice marking as it does an epoch in the history of scientific medicine in India

The school has not opened suddenly, in fact, some of its activities have been in existence for more than a year, but the opening ceremony indicates that the great scheme of Sir Leonard Rogers is now definitely launched on its career

The following report of the proceedings gives a survey of the history of the scheme from its origin in 1910 up till the present time —

I ADDRESS BY THE DIRECTOR,

LIEUTENANT-COLONEL J W D MEGAW, I.M.S

All who are connected with the School of Tropical Medicine greatly appreciate Your Excellency's kindness in coming to perform this opening ceremony But for your powerful aid, the School could not have reached its present state of development as a teaching and research institution, it is therefore specially appropriate that Your Excellency should open the School and hospital buildings just as it was fitting that your distinguished predecessor, Lord Carmichael, laid their foundation stones

This occasion is sadly incomplete in two respects the first is that Major-General Robinson* is absent owing to sudden and serious illness and the second is that Sir Leonard Rogers is not here to-day Sir Leonard has achieved a feat which would have been utterly impossible to any other man These two fine buildings in themselves constitute a remarkable memorial to his enterprise and genius, but they are only a part of his achievement. The provision of a staff of 10 professors, 6 full time research workers and 20 Assistants for teaching and investigating tropical diseases is a still greater feat. But, as things are, we cannot wish that Sir Leonard were still here. Before he left India, he had reached the limits of his physical endurance, and it is better that he should be able to carry on his work in England with undiminished vigour rather than that he should have sacrificed his health and risked his valuable life by remaining in India Though Sir Leonard is not here, I am fortunate in having at my disposal his own story of the origin of the School so that the very brief account which I now give is based on first-hand information It is impossible for me to give you an adequate idea of the long and dogged battle which Sir Leonard fought against almost insurmountable difficulties, nor can I expect to bring home to you the hopes and fears which stirred in his breast amid the changing fortunes of his cherished scheme Two points stand out in his work one is that, whenever he had surmounted a hill of difficulty, he always made its summit the starting point for a further advance, the other is that he attracted to his side most of the outstanding men of his time in India

Although the idea of a School of Tropical Medicine had long been in Sir Leonard's mind, the actual stimulus which moved him to propose his scheme came from a planters' doctor in Assam. This doctor, whose name unfortunately I do not know, wrote a letter to the *Englishman* in March 1910, suggesting the establishment of an institute in Assam for the investigation of Tropical Diseases Sir Leonard at once pointed out the special advantages of Calcutta as a centre for teaching and research in tropical medicine, and a little later he proposed a sanatorium for consumptives and a School of Tropical Medicine as suitable memorials to the late King Edward VII Unfortunately another scheme was adopted which met with little public support.

In June 1910, the late Sir Pardey Lukis wrote, approving of Sir Leonard's proposal and promising his support. The Government of India soon after expressed a hope that in time there would be a fully equipped School of Tropical Medicine in Calcutta with a special staff, but suggested that a beginning should be made at once on a small scale In December 1910, the Government of Bengal proposed the construction of a few rooms to house the School and at the time there seemed to be no prospect of obtaining a more adequate accommodation In spite of strenous efforts, Sir Leonard was unable to make real headway until the end of 1912, when Sir Pardey Lukis persuaded the Government of India to give a splendid grant of five lakhs of rupees on condition that the Government of Bengal should take up a large site which had been asked for by Sir Leonard This condition was promptly accepted, as the grant more than covered the cost of the site Sir Leonard at once took advantage of the acquisition of the new site by proposing a more suitable building and with the help of Mr H A. Crouch, Consulting Architect to the Government of Bengal, he promptly submitted a new plan

Sir Pardey Lukis again came to his aid by promising a grant of one lakh of rupees from the Indian Research Fund In September 1913, the New Central Avenue project cut off a large slice from the site and it was only after a strenuous struggle that the present plot of land was secured Fresh plans and estimates were necessitated, these were prepared in the record time of six weeks, thanks to the energetic co-operation of Mr Crouch and others The foundation stone of the School was laid by Lord Carmichael in February 1914

The next step was to obtain a whole-time staff and the Government of Bengal eventually agreed to establish five Professorships

At an early stage in the history of the scheme it became evident to Sir Leonard that a special hospital for Tropical Diseases was essential and early in 1914, at his own expense, he issued an urgent appeal for money to build one In September 1914, while on his honeymoon, with the expert help of Lady Rogers he prepared detailed sketch plans of the hospital By December 1915, he had collected over 2¼ lakhs of rupees, and the Government of Bengal agreed to start the building, but only on condition that Sir Leonard should give a personal guarantee to find the balance of Rs 35,000 out of his own pocket if he failed to raise the entire cost This condition he agreed to at once

* It is a matter of the deepest regret that the illness which prevented General Robinson from being present terminated fatally on the 7th of February though at the time of the opening ceremony he was progressing so favourably that hopes were entertained that he would shortly be restored to health

General Robinson worked with enthusiasm and persistence for the School from the time when he came to Bengal as Surgeon General up till the day when he was stricken down with his fatal illness

61 *Experience in Surgery of Typhoid Perforation G L Hays Pittsburg
62 Relation of General Practitioner to the Tuberculosis Problem E M Green Canton
63 Sanatorium Treatment of Pulmonary Tuberculosis H M Neale Upper Lehigh
64 Treatment of Pulmonary Hemorrhage A P Francine Philadelphia
65 *Chronic Cystic Mastitis J Speese Philadelphia.
66 *Syphilitic Enlargement of Salivary Glands with Report of Case B C Gile Philadelphia
67 The Live County Society How Constituted How Maintained J R Hunter Lewistown
68 Medical History of Dauphin County C A. Rahter Harrisburg

59 to 61 Abstracted in THE JOURNAL, Nov 2, 1907, page 1550

65 Abstracted in THE JOURNAL, Oct 26 1907, page 1465 This article was also published in the *University of Pennsylvania Medical Bulletin* January 1908

66 Published in *American Medicine*, December 1907

American Journal of Orthopedic Surgery, Philadelphia

January

69 Operation for Stiffening of the Ankle Joint in Infantile Paralysis J F Goldthwait Boston
70 *Etiology and Treatment of Congenital Talipes Calcaneovalgus. W G Stern Cleveland Ohio
71 Comparative Strength of the Adductor and Abductor Groups in the Foot R B Osgood Boston
72 *Gonorrheal Exostosis of the Os Calcis. C H Jaeger New York
73 Isolated Fracture of Greater Tuberosity of Humerus H L Taylor New York.
74 Some Unusual Spines J T Watkins San Francisco
75 A New Brace for Postural Scoliosis R Soutter Boston
76 Portable Traction Apparatus for Use in Fractures of and Operations on the Lower Extremities R Soutter Boston
77 Effect of Imperfect Hygiene in Production of Bone Tuberculosis. C Wallace New York
78 Treatment of Ununited Fractures of the Neck of the Femur by Use of Coin Silver Nails H A Wilson Philadelphia

70 **Talipes Calcaneovalgus**—Stern concludes that besides the recognized changes in the form and position of the foot, one of the leading characteristics of congenital talipes calcaneovalgus is the muscle imbalance consisting in passive contractures in the dorsal flexors and peroneï muscles and overstretching, lengthening, relaxation and atrophy of the plantar flexors and supinators and the tendo Achillis These muscles are not dependent on changes in the central nervous system but are due to forced position of the foot within the uterus in pronation abduction and dorsal flexion This forced position he asserts, is due to abnormal intrauterine pressure usually coming from a partial lack of liquor amnii All cases should be treated as early as possible by means of overcorrection and fixation This treatment is a cure for the muscle imbalance and usually restores the form of the foot Both the types of muscle imbalance and the results from such static treatment are additional proof of the pressure theory

72 **Gonorrheal Exostosis**—Jaeger refers to a painful affection of the foot that has been noted in a few instances to occur as a concomitant of gonorrhea He reports a case, making the seventeenth, with a typical exostosis growth which was removed, the bone being very brittle and easily curetted with a sharp spoon The condition is an ossifying periostitis in which the gonococci are found

Dominion Medical Monthly, Toronto

January

79 *Appointment of Ministers of Health F G Bushnell Brighton England

79 **Ministers of Health.**—Bushnell considers the nature and scope of a ministry of health and the arguments for and against it He is himself convinced that such an appointment would possess untold potentialities for the health, and, therefore, for the common wealth, of nations

Military Surgeon, Carlisle

January

80 Study of Tuberculosis in the United States Navy P M Rixey Washington D C
81 *Psychic Phenomena of Intestinal Toxemias and Their Treatment J C DeVries N Y National Guard
82 *Ipecacuanha in Amebic Dysentery H I Raymond U S Army
83 Treatment of Amebic Dysentery R. M Thornburgh U S Army
84 Sanitation of the Jamestown Exposition R L. Layne Norfolk Va

81 **Intestinal Toxemias**—DeVries discusses the psychic phenomena, depression, dread, fear, nostalgia, melancholia, delusions, etc., dependent on intestinal toxemia, and generally the result of long continued constipation There is intestinal distension, with gas pressure on the pneumogastric The treatment, of course, is the removal of cause In nervous anorexia he gives food, varied and at frequent intervals bitter tonics half an hour before meals, high frequency current forced feeding, salt rub, needle bath, or other form of hydrotherapy, and attention to the bowels are indicated

82 **Amebic Dysentery**—Raymond considers the treatment by ipecacuanha rational, because this drug causes a prompt disappearance of the ameba from the intestinal tract He describes the mode of administration in detail

Lancet-Clinic, Cincinnati.

February 1

85 *Plea for Early Diagnosis and Removal of Uterine Fibroids. A. D Willmoth, Louisville Ky
86 *Postperitoneal Fibroid Tumors of the Uterus R B Hall Cincinnati
87 Calmette Serum Reactions in Ophthalmology T D Vail Cincinnati.

85, 86 Abstracted in THE JOURNAL, Nov 2, 1907, pages 1552 and 1553

Kentucky Medical Journal, Bowling Green.

February

88 Present Status of Gastric Surgery with Illustrative Cases J G Sherrill Louisville
89 *Management of a Primipara During Pregnancy and Labor L H South Bowling Green
90 *Surgery of Inguinal Hernia with Report of Fifty two Operations on Forty eight Patients A Schachner Louisville
91 Perineovaginal Restoration D C Bowen Elizabethtown
92 Therapeutic Use of Roentgen Rays J T Rodman Owensboro
93 Complete Turbinectomy D S Reynolds Louisville

89, 90 Abstracted in THE JOURNAL, Nov 2, 1907, pages 1550 and 1551

Albany Medical Annals

January

94 *The Hexon Bases in Experimental Liver Necrosis H C Jackson and R M Pearce Albany
95 *Enzymes in Experimental Liver Necrosis. Id
96 *Nitrogenous Metabolism in Experimental Liver Necrosis Id
97 *Nuclein Metabolism in Experimental Liver Necrosis Id
98 *The Fats and Lipoids in Experimental Liver Necrosis Id
99 *Investigation of the Nature of Proteid Soap Compounds and of the Staining of Pure Fats and Lipoids by Scharlach R and Sudan III L K Baldauf Albany
100 Pathogeny of Spastic Rigidity of Childhood L. Archambault and L K. Baldauf Albany
101 Cerebral Abscess as an Associated Lesion in Acute Purulent Meningitis I Archambault and H P Sawyer Albany
102 *Physiologic Action Elimination and Therapeutic Application of Sodium Cacodylate Used Hypodermically S L Dawes and H C Jackson Albany
103 Case of Congenital Stenosis of the Duodenum H I K Shaw and L K. Baldauf Albany
104 Lipoma of Intestine Occurring in Child Thirteen Months Old and Causing Symptoms of Intestinal Obstruction C Chandler and L K Baldauf Albany
105 Case of Rupture of Uterus by a Myomata W A Krieger Albany

94 to 98 Published in the *Journal of Experimental Medicine* Sept 21 1907, and abstracted in THE JOURNAL, Oct 26 1907 page 1475

99 Published in THE JOURNAL, Aug 24, 1907, page 642

102 This article was published in THE JOURNAL, June 22, 1907, page 2090

Wisconsin Medical Journal, Milwaukee

January

106 *Mechanism of Pneumococcal Infections H F Wolf La Crosse
107 *Pneumonia L A Potter Superior
108 *Prevalent Ocular Diseases N M Black Milwaukee

106 to 108 Abstracted in THE JOURNAL, Aug 31, 1907, page 793

Milwaukee Medical Journal

January

109 Dr Senn B Robinson Chicago
110 Splenomegaly E. J Butzke Jackson Wis
111 The Relation of the Physician to the Profession W A. Scott Port Washington Wis

American Journal of Urology, New York

January

112 Choice of Anesthesia for Operations on the Genitourinary Tract M Krotoszyner San Francisco

of the programme of research work and the classes for the Diploma in Tropical Medicine are in full swing

Special recognition is due to the staff of the School who threw themselves into the work with such zeal that it was possible to start the classes on the appointed day in a manner which would have done credit to a school of many years' standing I also desire to thank the research workers for their willing co-operation in giving clinical instruction in the special diseases which are being investigated by them Owing to their voluntary help, the temporary shortage of hospital accommodation at the beginning of the session was not seriously felt.

Some special features of the work of the School may be mentioned One is that with the help of some distinguished visitors and leading medical men in Calcutta a series of weekly lectures on special subjects is in progress This course of lectures is of great value to the students and staff of the School and also to outside medical men, whose presence is welcomed The students themselves are enlisted in the work of teaching Discussions are held weekly by the members of the class In fact our aim is to enlist in the service of the School all who are able and willing to help The monthly conferences of the research and teaching staff are a special feature of the research side of the scheme.

Post-graduate teaching and research work are the most obvious functions of the School and in themselves these are likely fully to justify the expenditure of every penny that the school costs The young medical man in Bengal has now opportunities of higher medical education and of research work which are hardly surpassed in any part of the world But my hope is that this School will be a centre from which useful knowledge will be diffused to every corner of Bengal as well as a centre for post-graduate teaching and the acquisition of knowledge.

In this connection my first suggestion is that the teachers of Medicine, Pathology and Hygiene at the Medical Schools and Colleges of Bengal should attend a course of instruction at the School before they take up their duties If this suggestion is adopted, the standard of teaching will be improved and the result will be that the medical men of the future in Bengal will be much more efficient than they otherwise would be

I would also employ a specially selected medical man who had recently attended the School for the purpose of holding short post-graduate courses for doctors at a number of centres throughout the province In this way the isolated practitioners of the mofussil would have an opportunity of bringing up to date their knowledge of the most important diseases Such courses would greatly increase the efficiency of the medical men of the province

The third and most important suggestion is that a specially selected medical man should be trained at the schools of Tropical Medicine and Hygiene for the special purpose of instructing lay teachers in the methods of conveying to school children a knowledge of the essential facts connected with health and disease By a simple organisation it would be easy to arrange that every school teacher in Bengal should have an intelligent grasp of the simple laws of health and should convey this knowledge to his pupils Such a scheme will cost a mere trifle, it can do no harm, it is likely to do an infinite amount of good

The Institute of Hygiene is only entering on its career, but it is already obvious that a self-contained institute with provision for all the research and teaching and propaganda work of the Public Health Department would be of very great value If such an institute were established, there would be room for expansion in the School such as does not exist now I do not suggest that the much embarrassed Government should be asked to provide funds for this at present, but there is a splendid opportunity for some of our wealthy citizens who desire to benefit their fellow men They can incidentally make good a serious omission in the present scheme of the School Of the three great men who have done so much for the cause of medical education and research in recent times in Bengal, only one has had his name worthily commemorated, *viz*, Lord Carmichael With the foundation of an Institute of Hygiene there would be three buildings forming one complete scheme and the School and Institute as yet unnamed could be called after two outstanding men who till now are without any suitable memorial to the splendid work which they have done for humanity He must be a stranger to Calcutta who would not at once suggest the "Ronaldshay Institute of Hygiene" and the "Leonard Rogers School of Tropical Medicine" as the most appropriate names for these two buildings

Apart from this more ambitious plan, I would suggest to any one who desires to recognise in a tangible and useful manner the great services of Sir Leonard Rogers, that an excellent way would be to found a research scholarship in connection with the School to enable a young Indian worker to devote himself to work on one of the many diseases of Bengal Beri-beri and infantile cirrhosis of the liver are two problems of the greatest importance to Calcutta and as yet there is no machinery for attempting their solution

Everything points to the prospect of a great success for the School, we all hope that the Bombay School may have a similar success, and that the proposed Imperial Medical Research Institute at Delhi may one day be a splendid complement to the Calcutta and Bombay Schools, though we naturally regret that it has been considered desirable to locate the Imperial Institute away from the Medical Capital of India

During this period of rapid expansion of research work in India, it is hoped that a survey will be made of the existing position so as to secure the greatest degree of co-ordination between the various research schemes, and in this connection it is necessary to emphasise that the need of the future is research workers and that bricks and mortar can never take the place of these

We have in Calcutta a band of workers who have deliberately deprived themselves of the opportunity of lucrative private practice They claim no special credit for having done so They have taken up research work because they are keen on it and because the pleasure they derive from it compensates them for the money that they might have made in private practice While they have no desire to be placed on pedestals as pure philanthropists, they do look for a reasonable living wage and pleasant conditions of work, and it is a matter of great encouragement to us at the School of Tropical Medicine that the Government of Bengal have shown in practice that they agree with us on these points I need not assure you that we, on our part, realize that a heavy responsibility rests on us to give a good account of our stewardship Altogether the School is a splendid experiment, and while it is likely that experience in its working will show great possibilities of improvement in the future, it is already obvious that the scheme has been formed on sound and well-thought-out lines

In this sketchy survey of the School it has been quite impossible to make due acknowledgement to the many helpers who have lent their generous support to the scheme

It is likely that full justice will never be done to the work which Your Excellency has performed for the School Your help has not been rendered in the form of dramatic incidents such as lend themselves to the pen of the historian, but rather as a sustained and powerful influence which has benefited us in common with every other good cause in Bengal, and we join with the whole province in deep regret that we are so soon to be deprived of our trusted leader General Robinson * would be seriously displeased were I to tell in public all that we owe to him, it is certain that but for his persistent advocacy both in Calcutta and in Simla the major scheme would still be a proposal instead of a reality

* See the footnote on page 105

the systematic graduation of labor has scientifically regulated the autointoxication in point of time and amount. This cooperation with the natural efforts of the blood has enabled Paterson to send his patients back to their accustomed work, however hard it may be. But the investigation has done more than explain a successful mode of treatment. Paterson agrees with Inman that with the aid of the opsonic index the stimulus can be regulated with scientific accuracy and the clinical results can be obtained more certainly and rapidly. While this involves work in the laboratory, it means a more rapid and certain discharge of the patient, which is the main object of the sanatorium, and as a consequence of this the power to treat a larger number of patients.

British Medical Journal, London

January 25

10 Some Misleading Abdominal Cases. D. Power
11 Analysis of Recent Series of One Hundred Consecutive Appendectomies. A. H. Burgess
12 Intussusception Due to Polypus. J. L. Stretton
13 *Passage of Food Through Human Alimentary Canal. A. F. Hertz
14 *Status Lymphaticus in Relation to General Anesthesia. W. J. McCardle
15 Fatal Case of Status Lymphaticus. H. Hilliard
16 Case of Double Dislocation of Innominate Bones with Fractures of the Legs. J. S. Warrack
17 Rare Case of Scurvy. J. Chambers
18 Formaldehyde in Alopecia Areata. J. J. McInerney

13 **The Passage of Food Through the Alimentary Canal.**—Hertz describes, with diagrammatic illustrations, his observations on the passage of food through the human alimentary canal by means of the skiagraph the ingestion of bismuth being used to make the condition visible. The movements of the small intestines, of the colon, and the action of the ileo cecal valve and sphincter are described, also the nervous control of the gastrointestinal movements, and of the intestinal movements during defecation. His observations show that some of the contents begin to leave the stomach within half an hour of the beginning of a meal and, traveling at about the rate of an inch a minute, pass through the entire small intestine and reach the cecum in about four hours. He further found that the appearance of the shadow at the cecum when examined by the *x* rays, coincided in point of time with the occurrence of the earliest sounds to be heard on auscultation in the right iliac fossa whence he concludes that in auscultation we have a means by which we can time the rate at which the contents of the small intestine pass from the stomach to the cecum, and that thus auscultation may on occasion take the place of skiagraphy. Further, the gurgling in the right iliac fossa, usually associated with typhoid, is not a distinctive sign, as it occurs in all individuals who have small feeds repeated frequently, for in them fluid contents will be entering the cecum continuously, instead of only for a limited period beginning about four hours after each meal. He further investigates the antiperistaltic waves, which he finds to commence when the food reaches a point about midway in the transverse colon, so that the contents of the ascending colon and part of the transverse colon are caused to circulate and come into frequent intimate contact with the mucous membrane, with the result that absorption of fluid and nutrient materials occurs rapidly. Owing to this absorption of fluid in the proximal part of the colon the intestinal contents distal to the middle of the transverse colon are always moderately firm. The average time of travel of the contents from the cecum is about two hours to the hepatic flexure, an hour and a half more to the middle of the transverse colon, and one hour more to the splenic flexure. He shows that antiperistalsis renders the treatment of diseases of the cecum by rectal injections rational. He explains the indigestion caused by unpleasant emotions and pain, the greater activity of peristalsis in herbivorous animals and vegetarians and why a glass of cold water taken on rising aids evacuation in many persons. His observations further lead to the conclusion that the cecum and the ascending and transverse as well as the descending portion of the colon are active in defecation. The influence of the central nervous system is as important in defecation as in deglutition, but the intermediate part of the alimentary canal works to a great extent automatically, hence the taking of food and the excretion of feces can be timed to suit the convenience of an animal, whereas the rest of the alimentary canal is always active without requiring attention and without giving rise to sensation.

14 **Status Lymphaticus and Anesthesia.**—McCardie describes the history and evolution of our knowledge of the status lymphaticus, or status thymicus, from the observations of Plater, in 1814. He discusses the effects of different anesthesias and illustrates them with a series of cases, as also the diagnosis, the associated conditions, delayed chloroform poisoning, mode of death, pathology, choice of anesthetic, type of anesthesia, prophylactic treatment, and treatment.

Australasian Medical Gazette, Melbourne

December

19 *Medical Matters in Victoria. H. B. Allen
20 *Murmur Developed in Right Internal Mammary Vein. J. C. Verco
21 *Case of Dislocated Spleen with Operation. C. R. Blackburn and R. G. Craig
22 Case of Intestinal Anthrax. D. Wallace and R. J. Millard
23 Experiences in the Surgical Treatment of Ulcerations of the Upper Alimentary Tract. F. Magarey
24 Ocular Reaction with Calmette's Tuberculin. E. A. Falkner
25 Case of Achondroplasia. W. T. Litchfield
26 Some British and Foreign Clinics. R. Worrall
27 Case of Dicephalic Fetus. I. Bourne
28 Case of Hypertrophic Prostate. T. Fiaschi

19 This article will be discussed in the Department of Medical Economics.

20 **Murmur in Right Internal Mammary Vein.**—Verco describes a peculiar case of a man, aged 60, subject to occasional attacks of giddiness and unconsciousness. There was old chorioretinitis, probably syphilitic. He was addicted to morphin, but there was no history of alcoholism. The noticeable condition was as follows: Over the ensiform cartilage was a streaming, continuous noise, more marked during inspiration than expiration, and very loud on deep inspiration. It resembled somewhat the purring of a cat, or even more the whirring noise of a gramophone preliminary to the singing. It could be traced up through the right chest along the sternum and to the right side as far as the clavicle with somewhat diminished intensity, and as far out as the mid axillary line. It was questionably audible on the left side of the chest. Pressure on the tip of the ensiform cartilage or on its surface, immediately abolished the murmur in the chest, as did also firm pressure on the abdominal wall on the right side, outward and downward for about two and a half inches from the middle line. Pressure over the corresponding area on the left side did not affect it. A continuous thrill could be felt on very gentle pressure over the ensiform cartilage, it varied in its palpability at different times. When the man was lying flat on his back without a pillow, the thrill disappeared from the ensiform cartilage, but the murmur could still be heard in the chest, and was abolished by pressure on the ensiform cartilage. In the erect position the murmur was heard during inspiration, but suddenly ceased at the beginning of expiration. On postmortem the round ligament of the liver was found to contain a very large vein, admitting a lead pencil. After passing downward it turned at a short angle in the great omentum and running in it upward and to the left perforated the abdominal wall, ran over the end of the ensiform cartilage to its base, then crossed and dipped under the right costal cartilage joining the right internal mammary vein, which from this point on was very large, though thin walled.

21 **Dislocated Spleen.**—Blackburn describes the case of a girl of 17 who entered the hospital with severe pain in the right lower abdomen and local symptoms suggesting an appendicular abscess with matting and adhesions of the omentum and bowel. Constitutional symptoms developing, the abdomen was opened and a huge engorged, bleeding spleen was found. It was replaced in the normal situation. The conservative method in this case appears to have been right, for after thirteen months the organ had shrunk to half its original dimensions, was fixed, and situated midway between its normal position and the umbilicus.

Medical Press and Circular, London.

January 22

20 *Embolism Consequent on Lesions of the Left Heart. P. Clarke
6 Surgery of the Heart and Pericardium. R. Rehn

capacity successively of Surgeon-General with the Government of Bengal To Colonel Megaw we offer our heartiest good wishes and we congratulate him upon having been placed at the helm of a vessel which is destined, we feel sure, to carry him and his fellow workers, both Indian and European, far in their quest of knowledge to the enduring benefit not only of India but of mankind

III PRESENTATION OF MINTO MEDALS

After the School and Hospital were declared open, His Excellency announced the award of Minto Medals for medical research by Indians as follows —

Dr R. Row is awarded the medal for 1919 Though engaged as a busy private consultant in Bombay, he found time to do research work of the highest order in connection with the cultivation and experimental transmission of Leishmania disease to animals, the culture of malarial parasites, the causation of rat-bite fever and more recently in connection with tuberculosis

Captain K R. K. Iyengar, I M S is awarded the medal for 1920 He has been engaged in bacteriological research chiefly at the Central Research Institute at Kasauli He has made many important contributions to bacteriology and serology, partly in collaboration with other workers and partly as the result of his unaided research

Rai Bahadur Dr U N Brahmachari, Teacher of Medicine at the Calcutta Campbell Medical School, is awarded the medal for 1921 He has made many valuable contributions to our knowledge of malaria, kala-azar and other subjects His work in connection with kala-azar is well known throughout the world it is all the more creditable to him because it has been done in addition to his other heavy official and private medical work

IV VOTE OF THANKS

A vote of thanks to His Excellency was moved by the Hon'ble Minister Sir Surendra Nath Banerjee in an eloquent speech. He referred to all that was done by His Excellency the Governor in the cause of medical education and research in Bengal and attributed much of his own success in promoting the welfare of the School to the moral support of Lord Ronaldshay

He also referred to the fact that Sir Leonard Rogers had picked up the idea of a School of Tropical Medicine and instead of allowing it to remain a sterile and barren thought, he turned it into a diamond of achievement.

He congratulated those connected with the School on its auspicious inauguration and expressed his heartiest good wishes for its continued success He expressed his deep regret that His Excellency was likely to leave Bengal for which he had worked so long and so successfully He also hoped that the present dark clouds of unrest would soon be dissipated and that a glorious sunlight would soon spread over the land so that an atmosphere would be produced in which Medical Research would flourish He also hoped that a stream of contributions for the School and Hospital would continue to flow in ever increasing volume

Dr Sir Kailash Chandra Bose, in seconding the vote of thanks said —

In seconding the resolution so fittingly and eloquently moved by my esteemed friend, Sir Surendra Nath Banerjee, I need only point out that ever since the date His Excellency has taken over the reins of the administration of the provinces of Bengal in his hand he has evinced considerable interest in helping the sanitary experts to find out an easy solution of the problems of malaria, a scourge, worse than plague, and which annually carries off thousands of valuable lives

He has duly considered the suggestion of measures to be taken in arresting hookworm disease which fatally deteriorates the wage-earning capacity of the labouring class of people and thereby hampers agriculture and trade.

He has also considered the various sources of the spread of tuberculosis and how best to arrest its progress

His Excellency has by presiding over the function of this morning and declaring the School of Tropical Medicine and Hygiene formally open, laid us under a deep debt of gratitude

It is an institution which promises to train up medical men who want to make tropical diseases the special subject of their study Before the establishment of this institution people had to go to Europe and America to glean materials for their research work

Thanks to the untiring zeal of Sir Leonard Rogers the School of Tropical Medicine and Hygiene has seen the light Our thanks are greatly due to the kind-hearted European merchants bankers and noblemen and the munificence of the Marwari Community, who although very much placed in the background, have done an incalculable amount of good to the people of Bengal, where they are domiciled for trade or business The Pinjrapole Veterinary College, the Cottage Hospitals, the Birla Tuberculosis Ward and the Rest Houses for Pilgrims are the outcome of their philanthropic disposition

It is much to be regretted that the rest of the Indian Community have contributed so little to the funds of the institution Their abstention is not due to their not appreciating the boon which the Institution is going to confer on them but to their poverty

His Excellency's name has already become a household word amongst the people and they will always remember it with gratitude. Post-graduate classes were unknown to Calcutta which up to very lately was the metropolis of the British Indian Empire The scheme for establishing post-graduate classes for the higher training of the graduates was cherished and fostered by our friend Sir Ashutosh, the worthy Vice-Chancellor of the Calcutta University, who in spite of adverse criticism and strong opposition had the moral courage to bring it into perfection Certainly it has materially told upon the finances of the University but the benefit derived from it, it is hoped, will amply compensate the loss

This institution will I doubt not, mark an epoch in the History of Medicine in this country

I would ask you, Ladies and Gentlemen, to carry the vote of thanks with acclamation

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TEACHING AND RESEARCH WORK DONE DURING THE YEAR 1921

The following are brief abstracts of the reports for the year —

REPORT OF THE PROFESSOR OF MEDICINE

By LIEUTENANT-COLONEL J W D MEGAW, I M S

My duties as Director of the School of Tropical Medicine and Institute of Hygiene and as Superintendent of the Carmichael Hospital took up a large part of my time. My work as Professor of Medicine during the year prior to the opening of the School consisted in (1) preparation of lectures, (2) collection and making a precis of the recent literature of my subject and (3) making certain contributions to the Medical Journals on important branches of Tropical Medicine. After the opening of the classes I had naturally a good deal of teaching work including a course of lectures on Tropical Medicine and clinical instruction to the class in the wards of the Carmichael Hospital Soon after my appointment I had the honour of presiding at the 8th annual meeting of the medical research section of the Indian Science Congress and in that capacity I had the opportunity of reviewing the present position of medical research. An abstract of this address was published in the *Indian Medical Gazette* of April 1921 Special stress was laid on the importance of broad observations of the conditions under which

ing obstructed They can be removed in from five to ten days Gauze wicks do not answer the purpose and cause retention of fluids The joint should be immobilized from the start, even before the patient is moved from the scene of the traumatism Hardouin thinks that an exposed joint should always be regarded as infected

Revue de Chirurgie, Paris.

January XXVIII No 1 pp 1 112

53 Adenomas and Cysts of the Parotid Gland P Lecène
54 *Case of Diffuse Hypertrophy of the Submucous Connective* Tissue of the Stomach (Linite plastique) T Jonnesco and J Grossmann
55 Diagnosis and Treatment of Chronic Hernia of the Diaphragm D J Cranwell
56 Three Cases of Intrasaccular Tumor of the Omentum (Tumeurs épiploïques Intrasacculaires) Ambiel and Regnault

Semaine Médicale, Paris

January 8 XXVIII No 2 pp 13 24

57 *Neuritis in the Course of Cirrhosis of the Liver Klippel and Lhermitte
58 Professional Medical Secrecy in the French Army

January 15 No 3 pp 25 36

59 Amaurotic Family Idiocy (Maladie de Tay Sachs) Apert.
60 Regulations for Prophylaxis of Typhoid Fever in French Army

January 22 No 4 pp 37 48

61 Slight Diagnostic Value of Sore Throat in Typhoid. L Blum
62 Introduction of Tube the Entire Length of the Alimentary Canal Scheltema s Permeation Method for Treating Gastrointestinal Disorders

57 **Neuritis in the Course of Cirrhosis of the Liver**—Klippel and Lhermitte show that the generalized polyneuritis occurring in conjunction with alcoholic cirrhosis of the liver does not differ essentially from uncomplicated alcoholic neuritis The peripheral nervous system suffers from the loss of the antitoxic functioning of the liver, and it thus becomes more susceptible and allows the neuritic modifications to become installed, the neuritis being more severe in proportion as the lesions in the liver are deeper and more destructive The neuritis observed in the terminal stages of cirrhosis of the liver, on the other hand, is merely the result of the action of the multiple toxins of cachexia, as is evidenced by its non inflammatory and degenerative character

Berliner klinische Wochenschrift

January 13 XLV No 2 pp 49 88

63 Acute Chorea as Complication of a Severe Gastrointestinal Affection C A Ewald and J Witte
64 Albumin Metabolism in Diabetes (Eiweissumsatz beim Diabetes mellitus) W Falta
65 Syphilis Tabes and Paralysis in Their Etiologic and Therapeutic Relations with Lecithin G Peritz
66 Specific Formation of Precipitin After Injections of Human Feces (Präzipitinbildung nach Menschenkotinjektionen) A Huerstenberg
67 What Has Been Learned from Experimental Research on Mouse Cancers (Mausekrebs) E Gierke.
68 Peculiar Cell Inclusions in Leukemia (Zelleinschlüsse bei Leukämie) A Pappenheim
69 Penetrating Wounds of Digestive Tract. (Penetrierende Verletzungen des Magendarmtractus) W Braun
70 *Importance for Prognosis of Ocular and Cutaneous Reaction to Tuberculin A Wolff Fisner and F Teichmann
71 *Vomiting of Pregnancy (Erbrechen Schwangerer) E Runge.
72 Chronic Dysentery? O Ziemssen

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73 *Genital Tuberculosis A. Martin
74 Study of Men in Running and Bicycling Races (Wettgeher und Wettradfahrer) W Pfeiffer
75 Mechanism and Cure of Strangulation of the Penis. Pels Leusden
76 *Treatment of Syphilis with Arsenic O Rosenthal
77 Gummatous Lymphomas of Neck H Brauser
78 *Tuberculin in Renal Tuberculosis (Tuberkulin gegen Nierentuberkulose) O Pleilcke
79 *Medical Write-ups (Aerztliche Reklameartikel) C Posner
80 Vaccination in the German Colonies (Schutzpockenimpfung) Ziemann
81 Chemical Differences Between Human and Cow s Milk. (Chemische Unterschiede der Menschen und Kuhmilch) Bledert
82 Febrile Reaction—possibly of diagnostic value—After Ingestion of Water Containing Radium Emanations in Cancer Loewenthal

70 **Prognostic Importance of the Ocular and Cutaneous Reactions to Tuberculin.**—Wolff Fisner and Teichmann give a number of composite curve reactions made up from many cases in which tuberculin was inoculated in the skin or instilled in the eye The curves show that the reaction may occur in one of three ways The specific standard skin reaction shows an abrupt rise to its highest point in from twenty to twenty four hours and keeps high for the second day subsiding on the third or at the latest on the fourth day The second type shows a rapid but weak reaction, reaching its highest point in about ten hours and subsiding completely during the second day The third type is a tardy and continuous reaction not reaching its highest point until the end of the second day or later, but then persisting at this high point for several days The first, standard reaction, is encountered in most cases of incipient tuberculosis, and in the first and second stages, when the disease shows a slow and favorable course, demonstrating that the organism is capable and is struggling against the bacillary invasion The second, weak type of reaction, is observed in the third stage of tuberculosis, and in the first and second stages, when the resisting powers of the organism are at a low ebb The tardy and prolonged reaction is encountered in cases without any clinical signs of active tuberculosis The conjunctiva does not show any reaction in this class of cases The practical conclusions of the article are that a lively reaction, according to the first type, is a sign of favorable prognosis, as it shows that the organism is waging vigorous war against its invaders, and that with the aid of reinforcements from without supplied by medical care, the prospects are in favor of a final victory

71 **Vomiting of Pregnancy**—Runge regards the liver as mainly responsible for the hyperemesis of pregnant women and urges the necessity for light and frequent meals, repose, cool instead of warm drinks and soups, with copious ingestion of fluid and psychopathic measures Drugs owe their possible benefit mainly to suggestion, but anesthetics may prove useful, and some writers have reported good results from sodium bicarbonate Complete abstention from food for twenty four hours in an institutional environment has frequently given good results

73 **Genital Tuberculosis**—Martin advocates thorough general treatment and local excision, but with careful regard for the parts not affected by the tuberculous process and capable of aiding in the healing In his experience he has had 16 patients treated and cured by application of these principles 7 for four years and 6 for a still longer period One patient died from another cause, 2 were not benefited, 2 have succumbed since to tuberculous lesions elsewhere and 6 were materially improved and ultimate cure is probable It is generally impossible to perform a radical operation in case of genital tuberculosis, as there is usually some focus elsewhere and conservative measures are indicated that will not interfere with menstruation Vaginal excision of the focus relieved the patients of their pains and restored them to comparative health and strength, all increasing in weight thereafter If the genital tuberculosis is part of a general infection he does not attempt local intervention except when compelled by excessive secretions or pains or hemorrhage. The loss of blood and the enforced reclining render operative intervention a serious matter in case of general tuberculosis to be avoided if possible Spinal anesthesia dispenses with chloroform or ether, and he has never observed serious results from operative measures He remarks that tuberculous women seem to display a highly inconvenient tendency to conception but that signs that the tuberculosis is being aggravated by the pregnancy should compel its interruption Supervision of the weight generally decides whether the patient is on the up or down grade or stationary A lively reaction to ocular instillation of tuberculin indicates that the resisting powers of the tuberculous organism are active and can be depended on to oppose resistance to the tuberculous infection On the other hand, a negative reaction, in case of certain tuberculosis demonstrates that the resisting powers are at a low ebb and that the outlook for the pregnancy and the patient's future health is grave. In about two thirds of his 53 cases the genital tuberculosis was localized in the adnexa and in one third in the uterine mucosa The cervix was affected in three cases and the vaginal mucosa only once Encapsulated tuberculous abscesses often simulate tumors in the adnexa It is important to learn whether the tumor has developed in connection with puerperal septic or gonorrheal processes Disturbances in menstruation are always suspicious

76 **Arsenic in Treatment of Syphilis**—Rosenthal's experience seems to justify his assertion that arsenic deserves a

Dr K N Banerji has worked for four months in the laboratory as a volunteer assistant, whilst Dr A K Mukerji and Dr J Sen Gupta have also assisted as far as their other duties permitted

REPORT ON THE DEPARTMENT OF PHARMACOLOGY

By MAJOR R N CHOPRA I M S

I took over charge of my duties in this institution early in August 1921 The Pharmacological Department of the School had not come into existence till then, and there were none of the special appliances required for the equipment of a laboratory for experimental work in the subject A list of instruments required was prepared and orders for supply were sent to England The laboratory room in the meantime has been fitted up with motors and driving shaft to work the kymographs, and all the apparatus which could possibly be made here had been obtained or ordered A good deal of time has, of necessity, been spent on preparations in connection with teaching Lectures had to be started and for demonstration purposes, in the absence of proper apparatus, improvised appliances have had to be used

Efforts have been made to get a complete collection of authentic specimens of the indigenous drugs with a view to working out their action and also for instructional purposes This task has been rendered difficult owing to the fact that, although a large number of these drugs can be bought in the Bazar,' the specimens offered for sale are very often not the genuine article, and in the dried and crumpled-up condition they are met with, it is impossible to be certain of their identity Fresh samples have therefore been collected from green plants and submitted to an expert botanist for recognition before they are preserved and bottled. In this way a couple of hundred specimens have already been secured and more are coming in Research work in this branch cannot be properly undertaken till the laboratory is fully equipped Work on some of the indigenous drugs, however, has already been started, and the Chemistry and Pharmacological Actions are being investigated

In addition to my ordinary duties I have been appointed Secretary and Member of Aurvedic and Tibbi Committees, respectively, appointed by the Government of Bengal to report on what practical steps can be taken for the restoration and development of these two systems, with special attention to the question of teaching the systems under proper supervision and control, and this has required much time and consideration.

REPORT ON WORK IN THE LEPROSY RESEARCH DEPARTMENT

By Dr E MUIR.

The work in this department has been chiefly directed towards the solving of two problems —

1 The improvement of the treatment

2 The growth of the lepra bacillus in vivo and in vitro

I have so far found the most effective treatment in the ethyl and methyl esters of hydnocarpus and chaulmoogra oils

Eight patients have been discharged during the year as having lost all signs of active disease and several others have reached a similar stage, though I have considered it advisable to continue their treatment longer in order to make more sure of their permanent freedom from a return of active disease.

I have found that in order to maintain progress it is necessary to raise the dosage as rapidly as the patient can stand it. The raising of the dosage is made possible by the comparative painlessness of the drug when given intramuscularly, and its painlessness when given intravenously , 12 or 15 c.c may be given in the week by a combination of these methods The raising of the dosage must be regulated by the tolerance of the patient, which is chiefly dependent on the production of reactions The aim in treatment should be the production of slight, and strictly limited reactions, as improvement almost invariably follows

I am also experimenting with other oils, such as cod-liver oil soya oil, *neem* oil, olive oil, linseed oil and castor oil Although remarkable progress has been noticed under these oils, especially when administered as esters, and also under antimony we have as yet seen no reason to change my opinion that the oil obtained from hydnocarpus and chaulmoogra trees has some special qualities which make it at least to a certain limited extent a specific in the treatment of leprosy

I am also experimenting as to the efficiency of lepra and other acid-fast bacilli when killed by heat and injected hypodermically The patients' own nodules are ground up into an emulsion and injected in increasing doses , Where there are no nodules of sufficient size as well as in anæsthetic cases I have been using broth cultures of Kedrowsky's "lepra bacillus" killed by heat My experience of this form of treatment has not been prolonged enough to give a definite opinion as to its efficiency, but I am inclined to think that it may make a useful supplement to the ester treatment.

My experience of the treatment of leprosy during this past year has very strongly confirmed my opinion as to the importance of suitable exercise, diet and general hygienic conditions if the lepers are to progress towards recovery

Secondly my attention has been turned to efforts to cultivate the lepra bacillus in vivo and in vitro This is a necessary step in the discovery of the menas of transmission from one person to another I have succeeded in cultivating a strongly acid-fast slow-growing streptothrix from a leper patient through four monkeys, which after repeated subculture grows on potato, egg and other media, and is rapidly fatal when injected hypodermically in these monkeys I have however so far been unable to obtain the same streptothrix from other lepers by the same method

I am encouraged by this and other similar experiments not mentioned here to believe that the most hopeful method of culturing the lepra bacillus is by passing the germ through a series of monkeys and other animals and thereafter growing it on dead culture media

I have had the treatment mentioned above introduced into several of the leper asylums throughout India and control experiments are being carefully carried out in some of these by competent observers

CHEMICAL WORK IN CONNECTION WITH LEPROSY RESEARCH

By Dr SUDHAMOY GHOSH

A —Preparation of new compounds for trial in leprosy —

The preparation of methyl—and allyl-chaulmoogrates Preparation of a derivative of chaulmoogric acid and glycine in an attempt to prepare a water-soluble derivative Preparation of mercury-hydnocarpate for external use Preparation of an ester from leopard fat (the fat being believed to be effective in leprosy) Preparation of the ethyl ester of a new oil from Siam

B —Miscellaneous researches —

Study of the action of different concentrations of H_2SO_4 on the esterification of fatty acids Analysis of samples of drugs used in leprosy Identification and testing the purity of different samples of chaulmoogra oil bought for use. Study of the variation of optical activity and iodine values of esters obtained by fractional distillation Study of the action of light, air and moisture on purified samples of ester

C —Preparation of large quantities of esters for use in leprosy in order to supplement the supply from other sources

The technic is applicable equally well to compound and simple fractures The advantages of extension in the treatment of fractures are being recognized more and more the world around

Deutsche medizinische Wochenschrift, Berlin.

January 16 XXXIV, No 3 pp 89 136

91 *Treatment of Uterine Cancer Especially the Inoperable Form (Gebärmutterkrebs) A Martin.
92 *Ocular Reaction to Tuberculin (Conjunctivale Tuberkulin reaktion) F Levy
93 Treatment of Injuries of the Liver (Leberverletzungen) A. Neumann
94 Immunization to Tuberculosis E Klebs
95 Measurement of Diastolic Blood Pressure in Man (Messung des Blutdruckes) J Strasburger Commenced in No 2
96 Value of Leo's Method for Determining the Acidity of the Monometallic Phosphates in Stomach Content. (Azidität der Phosphate im Mageninhalt.) M. Barberio
97 Anthrax Infection from Tonsillitis with Anthrax Meningitis and Encephalitis (Milzbrand) F G A Meyer
98 *Glass Cap for Clinical Thermometer (Glashülse beim Gebrauch des Fieberthermometers) S Fackenheim

91 **Uterine Cancer**—Martin reviews the present status of uterine cancer, the percentage of operability has risen from 30 to 80 per cent, and Mackenrodt even reports 92 per cent while the primary mortality has dropped from an average of 50 to 20 per cent or even lower, Wertheim's statistics showing 8 7 per cent At present the average survival of five years is 20 per cent, instead of 10 per cent a few years ago The microscope is the only reliable means for differentiating cancer, he says, and adds that it often happens that the cancer is a casual discovery during examination for some other disturbance even in case of physicians' wives Cancer of the body of the uterus is more liable to cause hemorrhages or other disturbances earlier than cancer of the cervix, which is the reason for its better prognosis He remarks that cancer seldom develops later in women who have been under treatment for gynecologic affections In all his experience he has encountered only two such cases, Zweifel has never had one and Lomer only one All writers agree in respect to the dire importance of pregnancy for a patient with cancer He has discovered incipient cancer of the cervix in a number of pregnant women, and has always found extensive infiltration of the glands He has repeatedly found metastases in the ligaments in these cases, and sometimes remote metastases, high up behind the abdominal aorta and vena cava In some instances infiltrated glands were found above the renal artery He has encountered a number of inoperable cancers in pregnant women at term, but has always succeeded in arresting the hemorrhage and without septic sequels In one case a scirrhous ulcer of the cervix and vagina—microscopically verified—caused little disturbance and operation was refused The family physician gave the patient condurango and she is still living, twenty two years later Martin has also encountered three cases in which the inoperable cancer caused little trouble and the patients lived for more than a year succumbing finally apparently to senile weakness without much disturbance from the cancer of the cervix, Of all measures for treatment of inoperable cancer he prefers the actual cautery applying the heat so that it acts on the crater from a little distance rather than directly in its center, protecting the weak parts of the crater wall When the bleeding stops and the cauterization seems to be even and thorough he tampons the cavity with gauze impregnated with a solution of ferric chlorid The plain gauze is removed from the vagina the third day and the medicated gauze from the crater the tenth When the scab is thrown off the third week the lesion shrivels and heals over to a surprising extent, and the general health rapidly improves Months and even years may pass without further disturbance but the average survival is only from 224 to 280 days after this thorough cauterization In his personal experience 70 per cent of the patients did not survive the first year, 20 6 per cent. died during the second year and one patient lived for four and a half years Local recurrence after the radical operation, and the pains in the glands which indicate recurrence are too often overlooked, even by the family physician who treats the patient for sciatica or something of the kind The experiences of many surgeons have been so favorable that extensive operations are justifiable for these recurrences but they should be attacked early, as also recurrence after the palliative operation Repetition of the palliative operation is justifiable, he says, if only for its encouraging effect on the mind of the patient. The cauterization is liable to put an end to the pain, he asserts, even when it has previously resisted morphin and other sedatives When less radical palliative measures alone are possible, hot irrigation of the bladder will sometimes relieve and hot external applications, or possibly a retention catheter A retention tube in the intestines may likewise give great relief in some cases

92 **Ocular Reaction to Tuberculin.**—Levy reports a positive reaction in 85 per cent of 41 tuberculous patients and in 60 per cent of 54 with dubious tuberculosis, while the reaction was positive only in 2 5 per cent of 235 non tuberculous patients

98 **Glass Cap for Clinical Thermometer**—To prevent the danger of contamination of others, Fackenheim uses a small glass cap that fits loosely over the lower half of the clinical thermometer to protect it from infection and to prevent infection of the patient This little cap can be boiled or sterilized, and its presence over the thermometer does not affect in the least the behavior of the mercury

Münchener medizinische Wochenschrift

January 14, LV No 2 pp 57 104

99 Research on Emptying of the Stomach, Separation of Solids and Fluids Behavior of Fat (Entleerung des Magens etc.) O Prym
100 Ocular Reaction in Diagnosis of Tuberculosis (Ophthalmoreaktion) L Blum Id G Schröder and K Kaufmann Id A Wolff Eisner Id G Treupel Id Schmidt
101 Is There a Specific Precipitation Reaction in Syphilis and Paralysis? F Plaut, W Henck and Rossi.
102 Blood Pressure During Muscular Work (Verhalten des Blutdruckes bei Muskelarbeit.) Krone
103 Influence of Electric Stimuli on Distribution of Blood in Human Body (Einfluss elektrischer Reize auf Blutverteilung) Geissler
104 Influence of Mud Baths on Circulatory Organs (Einfluss der Moorbäder auf die Zirkulationsorgane) R Schmincke
105 Causes of Infantile Mortality (Amtsarzt und Säuglingssterblichkeit.) A Groth
106 *Pathogenesis of Leucorrhea (Fluor albus) E Neter
107 *The Physician in the Poet's Mirror (Der Arzt im Spiegel der Dichtkunst) Salzer

January 21 LV No 3 pp 105 152

108 Hemolysis by Combination of Oleic Acid or Sodium Oleate with Cobra Venom von Dungern and Coca.
109 *Cutaneous Tuberculides in Infants. (Hauttuberkulide im Säuglingsalter) F Hamburger
110 Importance of Training the Police in Certain Principles of Psychopathology Uebl
111 Neurology of the Tongue (Neurologie der Zunge) J Flesch
112 Eighty Spinal Anesthesias Without a Failure. (Lumbalanästhesien) D Holzbach
113 Significance of Pentoses in the Feces and Their Quantitative Determination (Pentosen in den Fäzes) A Jolles
114 Action of Subcutaneous Injection of Pyocyanase. P Bermbach.
115 History and Indications of Oxygen in Therapeutics (Sauerstofftherapie) G Galli

106 **Causal Treatment of Leucorrhea**—Neter describes a case in which obstinate leucorrhea persisted with obstinate constipation but subsided at once when the constipation was arrested It recurred twice, each time in conjunction with recurrence of the constipation, and subsided as the latter was relieved. The leucorrhea is probably the result of the congestion in the abdomen resulting from constipation

107 **The Physician in Poetry and Satire**—Salzer cites quotations from Petrarch, Molière Swift, Addison Voltaire Goethe Pliny and numerous modern writers, criticising and satirizing the medical profession He adds that medical science certainly has its vulnerable Achilles' heel where the shafts of satire can freely pierce Notwithstanding our modern progress the physician he says, is still occasionally confronted with conditions in which he feels like the veterinarian who laid one hand on the tail and the other on the head of a sick cow and told the owner, "*There is something wrong between here and here*" Comparatively few persons, Salzer continues, die without medical attendance First comes the disease, then the physician, and then death No wonder, he exclaims, that the would be wits of all ages have made a *propter hoc* out of a *post hoc* In conclusion, he remarks that the higher the scientific and ethical standing of the medical profession, the better for the individual physician, for the patient and for the people and the state, especially for the latter when physicians are

Further experiments, in as close an imitation of natural surroundings as can be devised, will be conducted during the ensuing hot weather, but it would seem clear from the work already done that infection of the soil and infection from the soil are likely to be much less common during the conditions prevalent in the plains of Bengal in May and June than at other times If this is correct then it follows that a course of intensive treatment of the whole population of agricultural concerns such as tea gardens, during these months, would help to break the vicious circle of infection and re-infection

Experiments have also been done on the effect of low temperatures An exposure of 2 hours to a temperature of between 17° and 25° Fahrenheit kills the ova, but even a longer exposure is not fatal to all larvæ. Water containing larvæ was placed at this temperature till the water was frozen solid It was then thawed out at room temperature Twenty-four hours later though 90 per cent. of the larvæ were dead, the remaining 10 per cent were alive and vigorous

The sterilisation by chemical means of soil or water infected with larvæ is apparently impracticable, the concentration required being too high To chlorine solution for example the larvæ are about 200 times more resistant than are B coli

3 An investigation was made as to the value of the septic tank latrine as a destructor of hookworm infection with a view to ascertaining if it were safe to use the effluent directly as field manure. We found living ova or larvæ in the effluents from 19 out of 56 tanks functioning in and around Calcutta This matter is receiving further attention

4 It was also found that hookworm larvæ could penetrate all materials ordinarily used as clothing Even leather boots when sodden can be penetrated, possibly by way of the stitch-holes Frequent and copious dressing of field-boots with boiled linseed oil is to be recommended, though even this does not give absolute protection

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REPORT ON FILARIASIS RESEARCH (DARBHANGA RESEARCH MEMORIAL)

By Dr SUNDAR RAO, DARBHANGA SCHOLAR.

An abstract of the filarial work carried out in Cuttack —an endemic area for filariasis—during the period from May 1921 to January 1922

The work consists of a preliminary investigation of (1) the nature of the endemic area and its people, (2) the extent of the filarial infection, and (3) a mosquito survey

(1) *The endemic area of Cuttack and its people* The town of Cuttack—10 square miles in area—is situated on a tongue of land formed by the rivers Mahanadi and Katjuri at their point of bifurcation in 20.29 degrees north latitude and 85 52 degrees east longitude, about 50 miles inland from the sea-coast. Its elevation is 75 feet about sea-level The average annual rainfall is 60 in almost equally distributed during the months from June to September The temperature ranges from the average maximum 102° in April and May—sometimes as high as 118°—88° during the monsoon and 69° in the winter from December to February Humidity varies considerably, ranging from average 75 per cent. in April and May to 85 per cent. in August.

Of the population of 51,000, a little more than 40,000 are Hindus and the remaining are Muhammadans and Indian Christians and a few Anglo-Indians and Europeans The people live in thatched mud huts closely collected together and are generally ill-nourished and poorly clad. Agriculture is their chief occupation

Leprosy, ankylostomiasis, malaria, and enteric fever are all prevalent and cholera periodically visits the place.

The water-supply is from wells, ponds and river

The system of drainage is not efficient.

(2) *The prevalence of filariasis* Of 1,700 persons examined, 190, *i.e.* 11.2 per cent. showed micro-filaria in the blood Of Hindus, 11 per cent. were found infected and the figures for other races, sex and children are too small for comparison

The species of micro-filaria is probably micro-filaria bancrotti, and it has a nocturnal periodicity

The earliest case of infection was in a boy aged 8

The highest percentage of infection was found in persons between the ages of 21–30 The rate of infection differs in different areas of the same town, *e.g.*, 25 per cent. in Ranihat and 34 per cent in Manglabag, both in Ward IX

The diseases which are regarded as being due to filaria bancrofti found in the area in the order of frequency are hydrocele, lymphangitis and lymph-adenitis, elephantiasis of lower limbs, of scrotum, and upper limbs, orchitis and funiculitis, abscess, lymph-scrotum, migratory swellings along the lymphatics of the limbs No cases of chyluria and synovitis were seen during the period though they are said to occur rarely

A large percentage of hydroceles—60 per cent—was found in young persons between the ages of 16 and 25

The earliest case of elephantiasis was in a boy aged 6

(3) *Mosquito survey*—The following 26 different species of mosquitoes were found to be common during the period They were kindly identified by Major S R. Christophers, I M S and Captain Burraud, Central Research Institute

Culex fatigans, C tritænorhynchus, C sitiens C gelidus, C concolor, C epidesmus, C univittasus C whitmorei, Stegomyia fasciata, S vittata, S albopicta, Mansonia uniformis, M annulifera, Ochlerotatus [illegible]ersaltus, O palidostriatus, Armigeres obturbans, Mucidus scatophagoides Culiciomyia Sp Anopheles rossi, A fuliginosus A sinensis, A fowleri, A vagus A minimus, A culicifacies, A maculipalpis

Of the above, Culex fatigans, was found to be breeding in large numbers in cess-pools and was present throughout the period

Of nearly 2,490 adult mosquitoes caught in the habitations chiefly in the evenings, 90 per cent. of them were C fatigans and nearly 10 per cent. of these latter were found infected in nature

In the artificially fed C fatigans the period of metamorphosis of the filarial embryo was found to vary from 13 to 22 days, the process being hastened during summer and delayed in winter

THE following are the courses of instruction at the school, for the present session —

I Tropical Medicine, Lectures and Clinical Instruction, by Lieutenant-Colonel J W D Megaw, I M S

II Bacteriology, Pathology and Helminthology, Lectures and Laboratory Work, by Major H W Acton, I M S

III Protozoology, Lectures and Laboratory Work, by Major R Knowles, I M S

IV Tropical Diseases of the Skin, Lectures and Clinical Instruction, by Major H W Acton, I M.S

V Serology, Lectures and Demonstrations, by Major R B Lloyd, I M S

VI Pharmacology, Lectures and Demonstrations, by Major R. N Chopa, I M S

VII Infectious Diseases, Clinical Instruction, by Dr L Ganguly

VIII Surgery of Tropical Diseases will be given by the Lecturer on that subject

149 Venesection in Pneumonia etc (Salasso) U Masi
150 *Potassium Bitartrate in Surgery (Il cremore di tartaro in chirurgia) V Mazzini

138 **Treatment of Tuberculosis with Maragliano's Serum**—Monti reports twenty five cases of tuberculous lesions in children treated with Maragliano's serum The patients with surgical tuberculosis showed marked improvement, as a rule and those with tuberculous pulmonary lesions were also benefited the results along both lines encouraging further application of the specific treatment In an editorial note it is pointed out that specific treatment of this kind has no action on progenic processes, secondarily installed, consequently its efficacy is limited to the tuberculous factor involved

139 **Treatment of Venereal Ulcers**—Ventura prefers a 50 per cent solution of zinc chlorid for local treatment of venereal ulcers This does not affect the sound skin but cauterizes the ulcerations and shows up by its caustic action any incipient ulcerations around the main lesion which are still too young for detection otherwise. He dresses the part with a disinfectant afterward

140 **Injection of Air After Thoracentesis**—Fontana discusses the accidents sometimes observed after puncture of the thorax owing to the abrupt subsidence of the previous compression of the organs within This can be prevented by immediately allowing a certain amount of filtered air to enter He has done this with excellent results in twelve cases If a bubbling sound is heard as the air enters the chest it indicates that the effusion has not been entirely evacuated His observations seem to confirm the assumption that the air in itself has some curative action

141 **Sodium Sulphate in Infantile Enterocolitis.**—Ciccarelli reports a number of typical cases out of his experience with fifty infants suffering from a dysenteriform enterocolitis all of which demonstrated the beneficial action of sodium sulphate in conjunction with restriction to a carbohydrate diet The sodium sulphate triumphed even in cases in which calomel, castor oil, etc., had failed to benefit

145 **Importance of a Muscular Reflex Seen in Typhoid**—Coggia calls attention to the fibrillary contraction which occurs in the brachial biceps when the belly of the muscle is struck suddenly but lightly and is then pinched gently between thumb and finger The aim is to apply a sudden brief and comparatively gentle mechanical stimulus to the muscle It induces a sudden local contraction of the belly of the muscle at this point when the individual is debilitated from any cause Under normal conditions the contraction extends throughout the whole muscle and does not remain limited to the point irritated This sign has been described in the literature under the name myedema or idio muscular reflex but it has been regarded as a sign of any debilitating disease Coggia affirms however that while it is constant in typhoid it is present only exceptionally in other diseases It was positive in his 18 typhoid patients also in 11 out of 18 pneumonia patients in 2 out of 9 with erysipelas and in 3 out of 4 with grip but the reaction was much more pronounced in the typhoid patients than in most of the others and he thinks that it can be accepted as a valuable adjuvant sign of typhoid fever

148 **Stretching the Pylorus for So Called Uncontrollable Vomiting**—De Francesco's patient was a peasant woman who for five years had vomited after nearly every meal retaining only a small part of the food The symptoms did not indicate inflammation ulcer tumor or hysteria He opened the stomach and stretched the pylorus, which seemed to be a trifle irregular in outline with the walls a little thicker than usual He introduced forceps and stretched the opening about two finger breadths wider then sutured the stomach and the patient has had no recurrence of the vomiting since

150 **Potassium Bitartrate for Dressing Wounds**—The Italians have been using since 1892 ordinary cream of tartar as a dressing for wounds. Lupo has published experiments which showed that a piece of meat could be kept intact for two months in a solution of potassium bitartrate As a dressing for wounds it seems to inhibit bacterial growth putrefaction and fermentations while it stimulates granulation and cleanses the region, and is free from toxic action and odor Mazzini adds to these virtues its efficacy in arresting necrotic processes in the bones and gangrenous processes, as it modifies conditions until the parts heal It acts better when applied as a powder or on gauze, rather than in aqueous solutions, as water has an injurious influence on the tissues The effect of the bitartrate is enhanced by alternating it with some other antiseptic or sterile dressing He has used it on hundreds of soldiers with various affections and lesions and has always been pleased with the results which he attributes mainly to the liberation of nascent oxygen as the bitartrate comes in contact with the blood or local secretions

Policlinico, Rome

January XV Medical Section No 1 pp 1 48

151 *Acute Insufficiency of the Capsule in Connection with Affections of the Suprarenal Glands G Sotti
152 Lesions of the Suprarenal Capsules in a Case of Purpura G Melchiorri
153 New Apparatus for Determination of Viscosity of Blood W Hess
154 Morphologic and Chromatic Changes in the Leucocytes and Significance of Circulating Leucocytes Containing Fat. O Torri.

January 12 Practical Section No 2, pp 33 68

155 Sensory Spinal Metameres G Calligaris

January 19 Practical Section No 3 pp 69 100

156 Desquamation in Typhoid Fever B Cicaterri

151 **Acute Insufficiency of the Suprarenal Capsules**—Sotti reports the case of an apparently healthy farmer who had been doing some hard work, exposed to the sun for several hours, when suddenly he collapsed with intense abdominal pain and headache with great prostration On the presumptive diagnosis of sunstroke, he was treated with cold to the head and purgatives, but the symptoms persisted, soon accompanied by vomiting and hiccough, the prostration increased, with a tendency to stupor, there were intense headache and delirium, respiration was superficial, the pupils were dilated and did not react to stimuli, the heart sounds became faint, and death occurred at the end of the week The only pathologic findings at autopsy were atrophy of the suprarenals from a sclerotic process in the veins and compression from a hematoma from rupture of one of the veins in the adipose tissue surrounding the left suprarenal capsule Sotti reviews the cases in the literature resembling this, and attributes the acute insufficiency in his case to excessive exposure to the heat of the sun

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits or in the interest of our readers

LINNÉS DIETETIK Pâ Grundvalen af dels hans eget originalut kast till förelâsningar Lachesis Naturalis Quæ Tradit Dietam Naturalem och dels lärjungeanteckningar efter dessa hans föreläsningar Collegium Diæteticum pâ uppdrag af Medicinska Fakulteten i Uppsala Ordnad och Utgifven af A O Lindfors Paper 1p 263 Upsala Akademiska Boktryckeriet Edv Berling 1907

SURGERY ITS PRINCIPLES AND PRACTICE Edited by W W Keen M D LL D Hon. F R C S Eng and Edin Emeritus Professor of Principles of Surgery Jefferson Medical College Vol III Pp 1132 with illustrations Cloth Price $7 00 Philadelphia W B Saunders Co 1908

LINNÉPORTRATT vid Uppsala Universitets Minnesfest pâ tvâhundraârsdagen af Carl von Linnés Födelse A Universitetets vägnar af Tycho Tullberg Paper Pp 189 with 30 illustrations and 21 page plates Stockholm Aktiebolaget Ljus 1907

SYPHILIS By Edward L. Keyes Jr A B., M D Ph D Clinical Professor of Genitourinary Surgery New York Polyclinic Medical School and Hospital Pp 577 with illustrations Price $5 00 New York D Appleton & Co 1908

HYPNOTIC THERAPEUTICS IN THEORY AND PRACTICE. By John Duncan Quackenbos A M M D Author of Hypnotism in Mental and Moral Culture ' Cloth Pp 330 Price $2 00 New York Harper & Brothers

SEVENTH ANNUAL REPORT of the New York State Hospital for the Care of Crippled and Deformed Children West Haverstraw Paper Pp 46 Albany J B Lyon Co 1907

CONFESSIO MEDICI By the writer of The Young People" Cloth Pp 159 Price $1 25 New York The Macmillan Co 1908

TWENTY FIRST ANNUAL REPORT of the State Board of Health of Ohio Pp 551 Cloth Columbus F J Heer 1907

SEVENTEENTH ANNUAL REPORT of the Ohio Hospital for Epileptics. Paper Pp 93 Columbus F J Heer 1908

work requiring low temperatures This cool laboratory is believed to be the first of its kind in existence Plans and estimates for the installation were prepared 10 years ago by the late Mr Willcox, refrigerating expert, to comply with the requirements given to him by the present Director of the School (Lieutenant-Colonel J W D Megaw) who believed that such a room would be of great value The usefulness of a cool room of this kind in the tropics is obvious, and there is now sufficient experience of its working to show that it is not only practicable but safe, and it is likely that the idea of artificially cooling rooms in the tropics will in time be widely utilized, not only for special scientific requirements, but also for the health and comfort of those who are compelled to work in the plains throughout the hot weather

The upkeep of the room makes only a trifling addition to the cost of the cold storage room which is admittedly an essential part of the School

The top floor is entirely given up to a series of eight laboratories for pure research work, together with an animal room, a dark room and microphotography apparatus The building throughout affords the utmost facilities possible for the dual purposes of teaching and research and during its construction every detail of its design was personally supervised by Sir Leonard Rogers There is probably no laboratory in India better designed and built

Two classes will be held during the year—

(*a*) a long-term session from the 15th of October to the 15th of May for European and Indian medical officers, terminating with the examination for the Diploma in Tropical Medicine, Students for the Diploma of Public Health will also attend part of this course ,

(*b*) a short-term session from July 15th to October 15th for post-graduate teaching of assistant and sub-assistant surgeons, for a certificate in Tropical Medicine and Hygiene

The classes at the School will be limited to about 25 each for the D P H and D T M Courses, in order that individual tuition may be possible As the teaching duties will not be heavy, the staff will have the leisure necessary for research work in their different sciences

The Institute of Hygiene—The hygiene section of the school occupies the laboratories in the east wing of the main building These include a large laboratory for the Diploma of Public Health class a large laboratory for the Professor of Hygiene, and the Public Health Laboratories for Bengal, which will come under the Public Analyst The class for the Bachelor of Hygiene and Diploma of Public Health (Calcutta University) will be held from October to June annually, and the above staff will teach on both sides of the combined institution The purposes and intention of the hygiene section are to combine in one building the laboratories under the Sanitary Commissioner of Bengal to co-ordinate the public health laboratory work of the province, and to raise the standard of education and efficiency of Deputy Sanitary Commissioners by providing facilities for post-graduate teaching and research

Current Topics

Prophylaxis of Ophthalmia in the East

Presse Med, 1920, *Nov* 17, *No* 84 *pp* 828-829—DAVID (J)

THIS paper by David is certainly arresting, and if his contentions can be made good by the experience of others, the work promises to be epoch-making He uses a 1 per cent solution of sulphate of zinc, to which is added 5 per cent of a 1 in 1,000 adrenalin chloride solution two drops of this solution are instilled daily into healthy eyes He claims that, by this treatment, he was able to keep a school in Lower Galilee, and a number of workmen in the neighbourhood absolutely free of acute conjunctivitis which was raging in the surrounding population This was in 1913-14 On returning to Palestine, in 1919, he had an equally extraordinary experience with 800 school children The treatment was suspended for three weeks, conjunctivitis then broke out in the school, and at once disappeared when the treatment was resumed There was not a single case of fresh trachoma among the subjects thus treated, which David explains on the ground that these other infections pave the way for the implantation of the trachoma virus—*Tropical Diseases Bulletin*, August 15 1921

Subcutaneous Tuberculin Test

FAILURE to react to tuberculin, Bardswell says, does not exclude tuberculous disease A negative response however, would appear to indicate that tuberculous disease, if present is quiescent and does not call for active treatment When the general clinical picture of a patient strongly suggests pulmonary tuberculosis, a negative response should be ignored A general or febrile reaction only gives no useful information it has no diagnostic import A focal reaction indicates the existence of a tuberculous lesion This reaction is of much less significance from the point of view of diagnosis and treatment than the presence of tubercle bacilli in the sputum It is in patients in whom a positive diagnosis can be made with some confidence upon general clinical grounds that the focal reaction is most likely to be obtained In practice, however, the test is indicated in few, if any, of these cases For a focal reaction, should it occur, but confirms the diagnosis already made while the absence of the reaction does not in any way discount a positive diagnosis If, as should be the case the subcutaneous test is applied only to those patients in whom, after full investigation, the diagnosis still remains uncertain, the most informative response of the inoculations, namely, the focal reaction, is scarcely ever obtained In short, it is in the cases in which assistance is most needed that the tuberculin test is least likely to give any indications In Bardswell's opinion, the test is not a means whereby the existence or absence of tuberculous disease can be determined. Neither, when a tuberculous lesion is present, does the test give any information as to its activity The test has disadvantages in that the general reaction so often produced gives rise to discomfort and unpleasant symptoms Further, in unskilled hands, the test may do definite harm—*The Jour A M A* August 27, 1921, from *Tubercle*, London, July, 1921

sponded very closely to that described by Lartigau[3] Lartigau's article contains the most important references concerning this subject (79 in all), which were obtainable at the date of that publication It is highly probable that cases of cancer of the cecum that have been reported as cured after resection were instances of hyperplastic tuberculosis The histologic detail and etiology are fully given in the article by Lartigau, but as the diagnosis is of importance, it will be considered in some detail in the following, which concerns more specifically the tuberculous cecal tumor, but applies also to the very closely allied condition of hyperplastic tuberculosis, for clinically and histologically they are generally inseparable

TUBERCULOUS INTESTINAL TUMORS

Tuberculous Cecal Tumor It has already been stated that enlarged retroperitoneal and mesenteric tuberculous glands may simulate intestinal tumors I wish to refer, especially, however, to the tuberculous tumor of the cecum and appendix The cecum, on account of its position, is the most favorable location for the arrest and deposit of tuberculous products which travel down the intestinal canal The pulmonary tuberculosis which is observed, together with this intestinal complication, is frequently insignificant Tuberculosis of the cecum, with advanced pulmonary phthisis, is a very rare occurrence The recognition of tuberculous neoplasms in this region is a modern diagnostic advance, and must largely be credited to abdominal surgeons Attention was first called to it as a disease to be differentiated from carcinoma of the cecum

Among the first to differentiate these two conditions was Durant, cited according to Conrath[4] The fact that Durant's article was published as late as 1890 is sufficient evidence that the recognition of this condition is a very recent one In 1891 Billroth[5] called attention to the tuberculous character of certain ileocacel tumors Czerny,[6] Konig,[7] Conrath,[4] Hofmeister,[8] Hartmann and Pilliet[9] and Salzer,[10] have contributed to our knowledge of tuberculous ileocecal tumors

Tuberculous cecal tumor may originate in two ways (a) From the mucosa, by extensions from tubercular ulcers on the inner side of the intestinal canal, and (b) from the serosa by the extension of tubercular lymph glands The form that originates from the mucosa represents, no doubt, an autoinfection by means of tuberculous sputa Whether or not the tumor may arise as a primary tuberculous process from ingested tuberculous food cannot definitely be stated, and Koch's recent utterances[11] cast a doubt on this question In most cases, the tumor results from three forms of changes incident to the tuberculous infection (1) The inflammatory infiltration as a consequence of multiple tuberculous ulcers which (2) may lead, partly, to extensive scar formation and, by cicatricial contraction, cause stenosis of the lumen and (3) hypertrophy of the intestinal walls as a result of the stenosis

As to the relation of this condition to appendicitis and perityphlitis of tuberculous origin, it may be stated, briefly, that among 120 cases of perityphlitis Langfelt found that 20 were due to tuberculous processes The chief stenosis occurs at the ileocecal valve, the folds of the valve being involved in the process Professor W P Obrastzow, of Kiew,[12] calls attention to the fact that stenosis of the ileocecal valve does not always bring about a collapsed and contracted condition of the ascending colon Theoretically, one would expect to meet with this result, and one ought to find that the ascending colon would be palpable, if at all, as a thin band or cord In some cases, this is really the condition found on palpation, but the colon in other cases is found as a distended cylinder about five centimeters in diameter Obrastzow attributes this distension to the production of gases from stagnating intestinal contents

THE DIAGNOSIS OF TUBERCULOUS CECAL TUMOR.

Conrath[13] collected 85 cases, of which 65 per cent. were between the ages of twenty and forty years In its incipiency the disease is latent, there may be constipation or constipation alternating with diarrhea The disease is, as a rule, not recognized as serious until the symptoms of stenosis are apparent Then follow either localized or diffused pains of an acute, colicky character Above all, persistent constipation, nausea, vomiting and frequently visible intestinal peristalsis occur Hemorrhage from the intestine, in the form of hemorrhagic admixtures in the stool, are rather frequent As the disease is a complication of pulmonary tuberculosis, elevation of temperature is met with frequently

Obrastzow, in a more recent and very scholarly contribution to the subject[14] looks upon an early and rapid development of the stenosis in the cecum as carcinomatous, and a late and slow development is considered by him as characteristic of tuberculosis In three operated cases of carcinoma of the cecum, the stenosis developed in the course of from three to nine months from the beginning of the disease In ten cases of tuberculosis of the cecum, the stenosis developed in the course of from three to nine months from the beginning of the disease In ten cases of tuberculosis of the cecum, the phenomena of stenosis were at no time very pronounced

In the differential diagnosis we must consider the possibility of (1) Cecal carcinoma, (2) dislocated kidney, (3) fibrous appendicitis, (4) accumulated scybala in the cecum

The differential diagnosis from cecal carcinoma is more precisely stated in the subjoined table

From dislocated kidney, cecal tuberculosis is distinguished by the following signs The dislocated kidney is more moveable, it gives a dull sound on percussion, and is very rarely accompanied by signs of intestinal stenosis, a diseased kidney, when affected with carcinoma, tuberculosis, gonorrheal infection or calculi, gives rise to nephralgia, pyuria, hematuria, etc A dislocated kidney can usually be replaced into normal position

The main supports of the diagnosis of tubercular cecal tumor are (1) Infiltration of the walls of the cecum, which assumes the character of a tumor, (2) the presence of tubercle bacilli in the stools In the beginning, the tumor is more or less movable, but later on it may become fixed by adhesions or contracting bands in the mesentery The lower edge of the cecum is located one centimeter above the interspinal line in man but when it becomes diseased by tuberculosis or carcinoma, the lower border of the cecum rises four

3 Jour Exper Med vol vi p 23
4 Bruns Beitr z Chir vol xxi No 1 1898
5 Wien med. Presse 1891 p 193
6 Bruns Beitr z Chir., vols vi and ix.
7 Deutsche Zeitschr f. Chir vol xxxiv 1892 p 65
8 Bruns Beitr z Chir vol xvii 1896 p 577
9 Bull de la Soc anat. de Paris 1891 p 471
10 v Langenbeck's Arch vol xliii
11 Congress on Tuberculosis London 1901.
12 Arch f. Verdauungsk., vol iv p 440 Zur Diagnose des Blind darmcarcinoms der Dünndarmtuberkulo e u s w
13 Quoted from Hemmeter's Dis of Intestines vol ii.
14 Arch f Verdauungsk vol vi, p 23

lecturer in the Department of Philosophy and Psychology of University College, London To those of us who share with Siegfried Sassoon a dislike to that "monstrous regiment" of old men whose baneful influence permeates into every branch of man's activity, it will perhaps be comforting to know that the author is quite a young man Mr Flügel is gifted with a singularly lucid style as well as a charming modesty in rating the value of his own opinions It is obvious that he has read deeply and discernedly the works of a great number of the most modern as well as the most distinguished psychologists and anthropologists The author's views are founded largely upon the conception of human character formulated by the psycho-analytical studies of Freud and his school of philosophical psychologists, hence everyone who feels capable of taking a serious attitude towards the immediate, no less than towards the remote future of the human race, should make this book an object of his or her intensive study The book may fail to make an appeal to those who are either by custom, or from some constitutional defect, incapable of resisting habit, convention and all the other sterilising influences of the human herd, such people, in fact, who hold a strong belief in the established and customary as well as those who are endowed with an infinite capacity for ignoring the unpleasant

The book may also be recommended to those who find themselves embarrassed by the so-called political movements that exists in India at the present moment By reading Mr Flügel's book they will also be more or less in a position to appreciate, if not indeed to understand, the motives which underlie the manifest activities of the various leaders of such movements

The book is very well printed, indexed and bound so that the Psycho-analytical Press may be congratulated on the style that it has adopted for its publications, of which this is the third up to date

THE HOT SPRINGS OF NEW ZEALAND—By STANLY HERBERT OBE MD BS (Lond) Publishers Messrs H K Lewis and Co, Ltd

THE author has written this volume with the object of showing the value of mineral waters of New Zealand, but the book is likely to be of interest to every one interested in the problems of balneology The first part deals with hydrothermal phenomena generally, hot springs, geysers and boiling mud springs, and forms very interesting reading In the second part, different kinds of spas and their special uses in relation to different diseases have been discussed The author has taken great pains in going into the chemical composition of various waters and their radio-active properties The third part has been devoted to the consideration of general principles of spa and mineral water treatment with special reference to physical and dietary treatment

The book, we trust, will interest the members of the profession in this country, where this branch is little developed in spite of the presence in certain parts of hydrothermal phenomena and hot springs

HANDBOOK FOR USE OF COMPOUNDERS IN CIVIL HOSPITALS AND SUB-ASSISTANT SURGEONS IN OUT-LYING DISPENSARIES—By MAJOR W W JEUDWINE, I M S

THIS little book contains very useful hints for compounders in civil hospitals and ward-orderlies in military hospitals It deals with most of the points of practical importance which they are likely to come across in their ordinary every-day duties and leaves out all the unnecessary details

The chapters on nursing and minor surgery contain a lot of useful 'tips," and the posological table in Chapter XV gives doses of all the medicines in ordinary use The book is likely to be of inestimable value to compounders and will be helpful to sub-assistant surgeons in training their staff and maintaining efficiency generally

CATARACT AND ITS TREATMENT—By HENRY KIRKPATRICK LIEUTENANT-COLONEL I M S (Retired), Late Professor of Pathology and Ophthalmology, Medical College, Madras, and Superintendent, Government Ophthalmic Hospital, Madras Pp xiii + 201 with 70 illustrations Oxford Medical Publications Henry Frowde, Hodder and Stoughton, 1921 Price 12*s* 6*d* net

WE gladly welcome this work from the pen of one who has in the past given us far too little of the knowledge culled from a vast pathological and ophthalmological experience If at first we are a little surprised at the smallness of the volume, a characteristic explanation is to be found in the preface where the author states his object He wishes to present to the civil surgeons of India, in condensed form, the more important features in connection with cataract We may state at once that the attempt has been eminently successful To doctors throughout India, who are so frequently called upon to deal with cataract cases the book will prove of the greatest value and neither civil surgeon nor ophthalmologist should be without it Outside India, too, the book will find a wide circulation, for the many specialists from overseas who have had the privilege of visiting the author's clinic will look forward to the study of his work For this reason it is perhaps to be regretted that the book is not more expanded and dogmatic, but this is compensated for to a large extent by the generous references to literature In spite of the condensation, the text is smoothly continuous and easily read, whilst one is prevented from missing the vital points by the excellent system of printing them in italics

In Chapter I, the anatomy and nutrition of the lens is dealt with, and the very important selective

Orth in 1886[16] The literature of this subject is given by Mazyck P Ravenel[17] In the light of the experiments of Ravenel we are warranted in concluding that under certain conditions tubercle bacilli pass through the normal intestinal wall with great facility and rapidity The most favorable condition for this to take place appears to be during the digestion of food made up largely of fat When we remember that the chyle is carried directly into the blood stream through the thoracic duct, it is easy to understand how it is that infection through food may show itself first in the lungs, or at any rate that the lesion in the lung may be as old as the intestinal lesion

The claim that alimentary tuberculosis should show itself in a primary intestinal lesion is fallacious and misleading Cats which are fed with virulent tubercle through a catheter, will in from six to ten days afterward give evidence of a tuberculous peribronchitis, in about 75 per cent of the animals infected, so that I have come to regard a peribronchial tuberculosis, without any severe lesion in the parenchyma, as an infection that has taken effect through the intestinal walls The so-called tuberculosis pulmonum peribronchialis[18] is due to an original infection through the alimentary canal

Mazyck P Ravenel[17] has demonstrated that the tubercle bacillus will pass through the stomach unscathed if it is taken into the digestive tract, mixed with food rich in fats thus it will be able to cause intestinal infection if it is taken in a certain amount of oil.

This leads us to consider an interesting bit of pathologic physiology

It is well known from the researches of Pawlow, that fats and oils arrest the secretion of gastric juice,[18] especially of hydrochloric acid, which is the normal disinfectant of the gastric contents, milk is chiefly an emulsion of fats, and from the studies of Pawlow we know that milk causes a less secretion of hydrochloric acid than any other food It is, therefore, most likely to prevent the secretion of the very substance which could destroy the tubercle bacilli contained in it. For this purpose it is advisable to recommend the use of dilute hydrochloric acid to tuberculous patients or even to those who are not yet tuberculous when gastric secretion is impaired, in order to prevent the infection of the intestines

The passage of tubercle bacilli through the uninjured intestinal mucosa was first demonstrated by Dobroklonski,[19] in experimental infections of rabbits Lartigau[3] has also confirmed this statement[20]

16. Specielle pathologische Anatomie vol 1 p 839
17 Jour of Med Research vol x 1903 p 460
18 Arbeit der Verdauungsdrüsen p 135
19 Arch d med exper et d anat path 1890 II p 273
20 In addition to the authorities cited the following references may be consulted
Körte Deutsche Zeitschr f Chir vol xl 1895 p 523
Fleyphart "Ueber Häufigkeit und Vorkommen der Darmtuberculose" Diss inaug München 1891
Wittstock Zur Klinik des Ileus durch Darmtuberculose" Diss inaug Berlin 1892
Luttersack Zeitschr f Tuberculose u Heilstätten Wesen Nov mb r 1900
Cornet (G) Die Tuberculose" In Nothnagel s Specielle Pathologie und Therapie vol xiv Part II

Successful Treatment of Muscular Contracture with Constriction Hyperemia.—Achard reported at the last French Medical Congress October 1907 a case of claw contracture of the hand left from tetanus following an operation for removal of a needle in the hand He applied a constricting band to the arm with almost immediate benefit the contracture subsiding under five applications of the constricting band for two hours daily By the end of two weeks normal functioning was restored

SOME STUDIES OF THE ENDOGENOUS URIC ACID MOIETY IN PATHOLOGIC CONDITIONS

ROBERT E PECK, PH.B., M.D
AND
FRANK W THOMPSON, M.D
NEW HAVEN, CONN

It is now seven years since the exact origin of uric acid in man has become generally recognized, and while a large amount of work in studying the nitrogenous metabolism in normal individuals has been done, the results of investigation into metabolic processes during disease conditions are very meager and of little real value, from a scientific standpoint, because they have been carried on without reference to the character of the food ingested We can not but feel that we must look, in the future, to the conditions of metabolic processes in functional nervous disorders and other nutritional disturbances for much aid and guidance in the diagnosis and treatment of these pathologic states, and we would like to make a plea for the more general examination of the urine and feces in the treatment of these diseases It was with this end in view that the investigations about to be described were undertaken

The pathology of endogenous uric acid presents a new field to work in, unencumbered by masses of literature which have to be sifted through and through to pick out that which is good Every observation made within the next few years must of necessity be a law by itself until additional evidence is brought forward to prove or disprove the original statement

Space will not permit of a detailed review of the work done on the subject of uric acid The literature is abundant and voluminous and includes the studies of many brilliant scientists We would especially commend to the reader two recent reviews, one by Chittenden[1] and another by Barker[2]

ORIGIN OF URIC ACID

It is now well understood that uric acid in man has its origin either from the purin bodies (xanthin hypoxanthin caffein, theobromin etc) of the ingested foods —exogenous portion—or originates within the body from the destruction of body nucleo-proteids — endogenous portion How the uric acid is produced, and what factors determine the normal ratio between uric acid formation and uric acid destruction are still open questions The evidence at our command however, points strongly toward the conclusion that there exists in certain organs of the body, notably the liver kidneys and muscles, special enzymes or ferments which are responsible for both the formation and destruction of uric acid Besides this a portion is probably formed synthetically

While the exogenous uric acid which depends on the amount of purins ingested, varies greatly from day to day the endogenous portion in health, should be a constant factor for each individual

In the statistics given by Rockwood[3] and others under normal manner of living, i e with no special or violent exercise but, of course on a purin-free diet the range of urinary endogenous uric acid was from 212

1 Some Problems of Intermediary Metabolism Boston Medical Journal June 1907
2. Truth and Poetry Concerning Uric Acid American Medical Association Press Chicago
3 The Elimination of Endogenous Uric Acid Am. Jour of Physiol., xii, p 38.



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BOVRIL

and strength but the head and eye symptoms were still bitterly complained of. In July, 1906, a purin free diet was ordered and 24 hour samples of urine examined. Patient refused to take the electric cabinet baths which were suggested, so recourse was had to the use of drugs in our endeavor to bring the output of uric acid up to normal. This covered a period from July to the following January and consisted of several different preparations of alkaline and laxative drugs and salicylates. No improvement in the symptoms followed the use of any of these except the salicylates. Some narrowing of the right half of the visual field of the left eye was noticed at this time. In January we succeeded in getting the patient to take several electric light baths. She began to show immediate improvement but discontinued them after about one week because the weather became so bad that she could not call at the office for her treatments. After stopping the electric baths she soon fell back into her former condition again. In June, 1907 we again prevailed on her to take some more baths. These were followed by the same improvement as was noticed in January. In July, 1907 she consulted the same oculist who had examined her eyes about three years before. He reported that while at the former visit the retina and optic nerve looked pale and had the appearance so often seen in uric acid conditions to-day the eye grounds were perfectly normal. Patient reported having had a very comfortable summer.

History.—C. S. P., female aged 42, married, no occupation. Patient came under observation in May, 1906 complaining of pains in eyeballs, a feeling of sand in the eye, blurring of vision, and a feeling as if she could rub something away from them; general weakness, lack of ambition, a feeling of lassitude, easily exhausted. During past winter had had an attack of lumbago. Symptoms had been present since December, 1905. Patient consulted an oculist who, after repeated examinations failed to find anything in the eyes themselves to account for the symptoms. Urine showed low uric acid elimination (.123 gm. in 24 hours).

Treatment.—She was put on 5 grains of piperazine three times daily, well diluted with water. This was continued for about four weeks without apparent change in the symptoms or in the urinary constituents. Patient was kept on a purin free diet and daily samples examined from May 3 until May 16. In June she was given six electric light baths on dates indicated in the table. These were followed by considerable improvement in symptoms. During the summer the patient received no treatment, but lived out of doors a good deal, taking moderate exercise. She continued to feel pretty comfortable until the latter part of October, when three or four weeks after her return to the city she began to feel the old symptoms again. The electric light baths were immediately begun and continued regularly until the latter part of December when the patient was discharged very much improved both in regard to symptoms and higher average of uric acid and total nitrogen output.

Comments.—We would like to call attention to the amounts of uric acid eliminated during the twenty four hours immediately following the baths, notably on June 18 and November 2, 4, 14 and 18. The patient has adhered to an almost purin free diet since its inauguration and reports a very good summer, not having been so well in several years as at present date (September, 1907).

History.—J. W. C., aged 67, widow, no occupation. Patient had been a neurasthenic invalid for about thirty years, spending much of the time in bed prior to about twelve years ago when she came under observation. At that time she received a course of treatment after the Weir Mitchell plan of rest cure. Since then she had been very comfortable, being able to go about and do light work around the house. For two or three months previous to November, 1906, she had complained of dizziness, objects oscillating from side to side, pains in legs particularly along the front of the tibia, pains in the back, insomnia, general weakness, nervousness and some paresthesia.

Treatment.—The electric light baths were begun December 10 and continued twice a week until about January 1 when they were discontinued because it was found they were too rigorous. Improvement in symptoms began soon after the first bath, the dizziness and pain in the legs entirely disappearing before the treatment was discontinued. There has been no return of symptoms to the present date. Here again we find very low endogenous urinary purin with a decided and consistent increase following the treatment. After the baths were discontinued, patient was given methyl salicylate for a period of about two months. The urine was again examined in February during this period. It is interesting to compare these results with those obtained in November and December.

History.—W. H. B., female, aged 55, married, housewife. Patient had complained of neurasthenic symptoms for several years. Her disability had never been great, but she wearied easily, was irritable, emotional, depressed and annoyed by trifles. She also complained of lameness in knees, back and back of neck and shoulder muscles, pain in occiput and extending to the vertex and forehead, knees were very sore to touch and creaked and grated when she attempted to bend them, pain in the arms at the insertion of the deltoid, finger joints also lame. No swelling or redness in any of the joints.

Examination.—This revealed the usual signs present in neurasthenia. Urinalysis showed no abnormalities, notwithstanding the fact that the joint and muscle symptoms present would lead one to suspect such changes.

TABLE SHOWING RESULTS OF ANALYSIS IN CASES STUDIED

Patient	Date	Quantity in c.c.	Uric Acid in gms.	Total N in gms.	Creatinin in gms.	P_2O_5 in gms.	Disease
	1906						
M. P.	July 2	1330	044	4 93	034		Neurasthenia
M. P.	July 3	1400	080	3 72	420		Neurasthenia
M. P.	July 25	1800	067	5 67			Neurasthenia
M. P.	July 26	900	030	3 15			Neurasthenia
M. P.	July 27	1880	070	4 50			Neurasthenia
M. P.	July 28	1320	031	4 20			Neurasthenia
M. P.	Aug. 5	1810	039	4 90			Neurasthenia
M. P.	Aug. 6	880	088	4 76			Neurasthenia
M. I.	Aug. 19	1000	168	5 81			Neurasthenia
M. P.	Aug. 20	1850	068	4 23			Neurasthenia
M. P.	Oct. 8	1280	160	3 42			Neurasthenia
M. P.	Oct. 9	1050	078	4 83			Neurasthenia
M. P.	Nov. 5	1230	221	5 16			Neurasthenia
M. P.	Nov. 6	1050	147	5 04			Neurasthenia
M. P.	Nov. 7	980	120	4 55			Neurasthenia
M. P.	†Nov. 8	1010	151	4 24			Neurasthenia
M. P.	Nov. 9	620	136	4 09			Neurasthenia
M. P.	†Nov. 10	1000	112	4 00			Neurasthenia
M. P.	Nov. 11	580	150	2 55			Neurasthenia
M. P.	Nov. 12	1070	178	7 12			Neurasthenia
M. P.	†Nov. 13	1400	135	4 48			Neurasthenia
M. P.	Nov. 14	830	103	2 98			Neurasthenia
M. P.	†Nov. 15	670	100	3 61			Neurasthenia
M. P.	Nov. 16	490	088	2 35			Neurasthenia
M. P.	Nov. 18	1230	151	2 95			Neurasthenia
M. P.	Nov. 19	260	053	1 14			Neurasthenia
M. P.	Nov. 20	1100	178	2 38			Neurasthenia
M. P.	Nov. 21	890	097	2 07			Neurasthenia
M. P.	Nov. 22	850	204	2 21			Neurasthenia
M. P.	Dec. 17	1480	194	6 00			Neurasthenia
M. P.	Dec. 18	1030	081	3 02			Neurasthenia
	1907						
M. P.	June 5	675	111	1 32		0 46	Neurasthenia
M. P.	June 20	1040	179	3 93		0 67	Neurasthenia
M. P.	June 21	740	133	2 49		0 39	Neurasthenia
M. P.	June 22	1530	253	5 03		1 24	Neurasthenia
M. P.	June 26	1070	180	4 14		0 73	Neurasthenia
M. P.	June 27	1570	243	4 53		1 38	Neurasthenia
M. P.	June 28	730	244	3 83		0 73	Neurasthenia
	1906						
C. S. P.	April 30	1570	123		688		Neurasthenia
C. S. P.	May 4	1450	206	8 96	1 085		Neurasthenia
C. S. P.	May 5	2170	195	7 78	1 124		Neurasthenia
C. S. P.	May 6	1350	130				Neurasthenia
C. S. P.	May 7	1605	210	9 30	6 350		Neurasthenia
C. S. P.	May 8	1200	117	6 12	6 770		Neurasthenia
C. S. P.	May 9	1480	103	6 09	835		Neurasthenia
C. S. P.	May 10	1550	210	6 72	2 170		Neurasthenia
C. S. P.	May 11	1250	175	6 71	1 900		Neurasthenia
C. S. P.	May 12	1000	091	7 71	2 600		Neurasthenia
C. S. P.	May 13	2030	065	5 96	3 800		Neurasthenia
C. S. P.	May 14	1510	190	6 97	1 740		Neurasthenia
C. S. P.	May 15	1260	230	5 97	1 200		Neurasthenia
C. S. P.	May 26	1100	215	6 00	610		Neurasthenia
C. S. P.	May 27	1220	238	6.83	300		Neurasthenia
C. S. P.	June 18	1700	165	7 44	1 714		Neurasthenia
C. S. P.	†June 19	880	320	6 43	1 073		Neurasthenia
C. S. P.	Oct. 19	1740	017	7 60			Neurasthenia
C. S. P.	†Oct. 30	1350	151	9 40			Neurasthenia
C. S. P.	Oct. 31	1220	204	9 03			Neurasthenia
C. S. P.	†Nov. 1	1200	209	7 61			Neurasthenia
C. S. P.	Nov. 2	1170	175	5 89			Neurasthenia
C. S. P.	†Nov. 3	1850	251	8 65			Neurasthenia

Few are so well fitted to write a book on cataract as Colonel Kirkpatrick and we may perhaps express the hope that when it becomes necessary to produce a new edition of "Cataract and its Treatment," which we anticipate will be early, he will not hesitate to give us in more expanded and dogmatic form his own particular matured opinions and experiences

R E W

Correspondence.

THE following letters appear in the *British Medical Journal* of December 10, 1921

SCIENCE IN RUSSIA

An Appeal to British Scientists and Physicians

SIR,—I know that many of you have acquaintances and even friends among Russian scientists Christmas is approaching, which Russian scientists will once more keep in hunger and cold in a régime of unprecedented slavery and terrorism Remember your friends and acquaintances and send them your Christmas greeting Your sympathy will support them in the hardest time that Russian science has ever had to endure, because in Russia, as elsewhere, science dies when deprived of liberty

The American Relief Administration (67, Eaton Square, London, S W 1) receives contributions in money, and, from its famine relief stores in Russia, will guarantee to deliver a parcel of foodstuffs to any person designated, and will forward a receipt from the latter

If anyone finds a difficulty in selecting a particular Russian scientist, the parcel may be addressed simply to the Rector of the University of the city in question, or to the President of the Military Medical Academy at Petrograd, or the Academy of Sciences, for distribution among the scientists of the respective institution.

If necessary, I can furnish information as to the whereabouts of a number of Russian scientists remaining in Russia.

Yours, etc.,
V KORENCHEVSKY,
Formerly Professor of the Military Medical Academy
Lister Institute of Preventive Medicine
CHELSEA *S W* 1, *November 28th*

ON THE OPERATION OF PROSTATECTOMY

SIR,—Everyone must have noticed the storm which Freyer's death has raised as to priority in the enucleation of the prostate. Some of it pays a compliment to Freyer after the fashion of "Lady Candour" in *The School for Scandal*, most of it implies that Freyer was not straight in his claims, and all of it is unsavoury at this hour "There *is nothing* new under the sun" Ideas are as plentiful as blackberries, but few of them come to anything Americans would be amused if we asserted that their citizens—the Wrights—pirated their ideas about aeroplanes from the *Mahabharata*, which describes the use of aeroplanes in the great Indian war!

I knew Freyer, and I doubt if many of the writers would have tackled him if he were alive, as he was a sharp controversialist. Freyer was a big man who will live as one of the landmarks of surgery He was quite a big enough man to do prostatic enucleation on his own initiative I am confident that he was not a walking encyclopædia, and that there were many of the "kings of Israel," such as Fuller, McGill, etc., whom he knew not His school in India before he went to London was his hospital where he had plenty of material of all kinds Such men are far too busy with their interesting material to become walking encyclopædias

There is no doubt in the mind of the average commonsense surgeon that Freyer's work established the enucleation of the enlarged prostate for all time. We are not convinced that without Freyer the enucleation of the prostate would have been more advanced to-day than it was fifty years ago

Freyer was an honest man. Freyer was a courageous man His name will stand out in the history of the surgery of the prostrate as the towers of Palmyra stand out in a wilderness

Yours, etc.,
HENRY SMITH, C I.E
Lieutenant-Colonel, I M S
LONDON *S W November 18th*

To the Editor of THE INDIAN MEDICAL GAZETTE

SIR,—I have read Dr Ganguli's letter on the "Formol-gel Test in Kala-azar" in the February number of *The Indian Medical Gazette*

The "Formol-gel Test" was first introduced by two observers in France, Gate and Papacostas as a test for syphilis, their criterion being that 1 c.c of syphilitic serum will become jellified within either 24 or 48 hours if two drops of formalin are added Four hundred cases, of which a large proportion were cases of syphilis, were tested in this way, and in no case did they describe the serum as having become opaque Quite independently, I noted that the addition of formalin to kala-azar serum caused solidification and complete opacity to occur The technique which I used for performing this test the result of which is dependent on the serum becoming opaque rather than on the solidification that occurs also in other conditions and which, to avoid confusion, I have called the "Aldehyde Test for Kala-azar," was almost identical with that suggested by Gaté and Papacostas The times at which I read the results are 20 minutes, 2 hours and 24 hours after adding the formaldehyde The details of the test and the results that I obtained in applying it in 150 cases in which I had also done a spleen puncture will be published in the April number of the *Indian Journal of Medical Research* Of 91 diagnosed cases of kala-azar, only two gave a "Negative" aldehyde reaction. Since I sent this paper for publication, I have tested over a hundred more cases of kala-azar by this method and have found that the number that gave a "Negative" aldehyde reaction is rather larger than I was at first led to suppose, also I have had my attention drawn to a few such cases in the Medical College Hospital and elsewhere. All these cases have been early cases and in my own experience do not amount to more than 5 per cent. of the kala-azar cases tested To-day a case came to my out-patient clinic giving a "strongly positive" aldehyde reaction who had given a "negative" aldehyde reaction two months previously, so it is possible that the reaction is frequently absent in very early cases

I think that Dr Ganguli would have obtained results more in agreement with his spleen-puncture findings (I presume that his diagnosis did depend on the spleen-puncture findings) had he allowed a longer time to elapse before taking his readings

I have had no experience of a case who was not suffering from kala-azar giving a "positive" aldehyde reaction, although on one occasion I found it necessary to do three spleen-punctures on a clinically typical case before I could justify a "positive" aldehyde reaction It is possible that Dr Ganguli's patient who had syphilis also had kala-azar

Yours, etc.,
L E NAPIER
CALCUTTA SCHOOL OF TROPICAL MEDICINE,
February 13th, 1922

marked diminution in the output of endogenous uric acid in the urine

That the presence of an excess of purin bodies in the human system is accompanied by symptoms of disturbed function is attested by the words of Walker Hall [4] He says

> At present there is a tendency to disregard the action of the oxypurins on the tissues, but it must be remembered that when they are in excess they probably form unusual combinations and that such products may act as irritants When Kochmann added carbohydrate food to the meat diet, his dogs presented few postmortem pathologic changes Up to the present date I have made a large number of personal experiments and when I have taken large doses of purin bodies, such as ½ gm of hypoxanthin, 1 to 5 gm of guanin, 0 5 to 1 gm of uric acid—apparently associated symptoms of general malaise and irritability have frequently appeared

Hoslin and Dercum state that there is an excess of uric acid very uniformly in neurasthenia and that this uric acid results from a breaking down of the nuclei of cells, especially nerve cells Herter says that there are few cases of neurasthenia which do not show some defective metabolism in urine and feces and that the twenty-four-hour amount is generally below normal, showing low specific gravity

It has been shown by feeding experiments with meats (beef, fish and fowl), haricot beans and beer that under appropriate conditions the urinary purins, principally as uric acid are increased and the increase corresponds to 50 to 60 per cent of the purin bodies ingested The remaining 50 per cent is excreted as urea and intermediate bodies between uric acid and urea It is fair to assume that the endogenous purin portion may behave similarly and that 50 per cent appears as urinary uric acid Inasmuch as the endogenous uric acid is derived in part from the leucocytes but mostly from the cleavage of cell nuclei and as the cell-nucleus dominates the cell activity the urinary uric acid indicates the extent of the metabolic processes and in turn the functional activities of the cells

Obviously, considering the present state of our knowledge it is impossible to draw definite conclusions as to just the character of the pathologic changes that have been operative in the cases described, i e, whether there is increased formation with retention or increased destruction of uric acid

The striking feature in the majority of the cases is the abnormally low output of endogenous uric acid, and in most cases total nitrogen also With the return to normal of the urinary constituents the symptoms complained of were improved, therefore it seems justifiable to say that some interference with endogenous uric acid metabolism was the cause If this is admitted we must grant that a certain percentage of cases diagnosed as neurasthenia have a well defined pathologic condition (low endogenous uric acid output), causing their symptoms On the other hand the metabolic disturbances may result from the general asthenia but we are inclined to the former belief, viz that the metabolic anomalies are primary If this be true one can not emphasize too strongly the importance of the so-called rational therapeutic plan of treating this class of cases, i e by hydrotherapy, massage, properly regulated exercise and diet

SYMPTOMS

The symptoms complained of might be divided into two classes

1 *Toxic* Due to deleterious substances formed from products of imperfect metabolism, circulating throughout the system Under this heading would be classed headache, dizziness, gastrointestinal disturbances, blurring of vision and other eye symptoms

2. *Mechanical* Due to direct irritation of nerve endings by pathologic products, causing muscle and joint pains

The explanations of the etiologic factor and symptoms naturally go together If we accept the theory that uric acid is formed by a series of steps from xanthin bases by enzymatic action and as a product of normal muscle metabolism, through the action of these enzymes, which are found in muscles and other organs, it would follow that any failure on the part of one or more of these ferments to do their work would result in throwing the process of normal metabolism out of order, with the formation of products which should not be present As it has been shown lately that muscular action plays a considerable part in uric acid formation, it would follow that a good many of these abnormal products would be present in the muscles themselves, which seems probable from the nature of the symptoms complained of Again, if there was a break in the chain of enzymes which go toward forming endogenous uric acid, this product would be diminished, which by the results obtained is found to be the case On the other hand, there is also the possibility that the uric-acid-destroying ferment might be over active and destroy more than its normal amount and thus lead to the abnormally low urinary uric acid

If one is not quite ready to accept the enzymatic theory for the formation and destruction of uric acid, there is the one advanced by Gotto [5] In this case a normal amount of uric acid might be formed, but owing to excessive amount of combination with organic substances an abnormally low endogenous uric acid would be found present in the urine This pathologic retention could easily explain the symptoms, especially when nodules were formed

The blood in health does not apparently contain uric acid, but its presence in certain pathologic conditions has been fully demonstrated by Salomon, Klemperer, v Jaksch, Garrod and others If it is present it may escape detection owing to its combination with certain organic substances, and the symptoms may not be due so much to the quantity as to the character of the combination

In the cases of neurasthenia given it is interesting to note that the majority come between the ages of 50 and 70 years, while all except one are females These few cases are, however, not of a sufficiently large number to draw positive conclusions from Before the exact percentage in which low endogenous uric acid is present can be accurately determined a large number of patients will have to be examined

The drugs used in the treatment of these cases, with the possible exception of methyl salicylate, had no effect on raising the low endogenous uric acid This is in a way confirmatory of the results obtained by other investigators, as is shown by a table given by Hall [4] By reference to this table it will be seen that sodium salicylate is the only drug which gave a marked increase in urinary purin Most of these results were obtained by experiments conducted either on a mixed or a vegetable diet or with nitrogenous equilibrium, but not a purin-

4 Purin Bodies p 78.

5 Ueber die Lösung der Harnsäure durch Nukleinsäure Ztschr f physiol Chem xxx 1900 p 473

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to sacred places by Christian Science mental healing, cures affected on the tarantati by the tarantella dance[1] or again ecchymoses—actual rupture of capillaries and other blood vessels in specific locations—caused by fright or faith acting on an anxious imagination The communication of the stigmata is an ecclesiastical illustration, said to be supernaturally impressed on the bodies of certain people in imitation of the wounds on the body of Jesus, such as the stigmata of St Francis or, again, the deaf hearing, the lame walking, the dumb speaking, the blind restored to sight occasionally, even in our own matter-of-fact, everyday practice, in consequence of emotions and experiences made by conditions connected with certain acts

These various illustrations of the phenomena of disease accepted as realities are so incapable of explanations founded on visible pathology that in accepting these we do not need to doubt the possibility of an epilepsy a disease belonging to the same type once in a while being cured in the same way

Dr William Carpenter, in his "Mental Physiology" a book that ought to be in the library of every physician, says that so many mysterious things occur within the little universe of man so impossible of logical elucidation, that the educated person is not in a position to refuse belief in anything

There are so many cases of recovery from epilepsy following operations, for example, for the relief of cerebral tension, when there was no tension, and the amputation of such parts as we know now had no connection with the cause of the disease, that I know of no other explanation except the one I have adduced

Take the following illustrations from my own case-book

Case 1.—Mrs B, wife of a druggist aged 42 had been an epileptic for twenty years, convulsions for the last year averaging six monthly For three months she had been taking bromid of potassium 20 grs 3 times daily in 4 ounces of water hydrocyanate of iron 1 gr 3 times daily with restricted diet During absence of the cook, Mrs B, had temporarily assumed her place at the kitchen range Breakfast being delayed, her son entered the kitchen and found his mother in a convulsion the first one in ten weeks with her charred hand rubbing against the bars of a red hot grate An amputation under ether was done, and until her death, eight years after she was free from convulsions, although treatment with epileptic medicine after three weeks interruption, lasted only for a month after the recovery from the operation

Case 2.—Louise X, aged 12, an epileptic since her second year with convulsions averaging for the past year, twelve monthly She had been under my care three months, during which time she had had but one convulsion Treatment was bromid of strontium 6 grs four times daily in 4 ounces of water Infusion of digitalis a teaspoonful three times daily on alternate days with restricted diet and protection from excitement After a bath on a hot summer day her nurse placed her on a slipper box in front of an open third story window went into an adjoining room for fresh clothing and when she returned the naked child had disappeared through the opening falling with such force on a wooden fence as to break it An hour later I found her on a sofa in the parlor excited confused with a deep laceration on the outer surface of her left thigh about 4 inches long which after washing and being brought together with stitches under ether she was put to bed There were no broken bones Until the family left the city four years after the child was free from convulsions the accident leaving no result except a scar

Case 3.—Margaret C aged 9 an epileptic since her second year with an average of three fits monthly, convulsions slight, short, almost psychic She was but slightly benefited by a treatment of bromid of strontium and infusion of digitalis, and adapted diet, and the treatment became frequently interrupted and finally was suspended altogether Two years after, she returned with the spells more frequent but with a bunch of tuberculous glands in the right surgical triangle extending up toward the ear Three years after their extirpation under ether she is still exempt from convulsions and is entirely normal In this case no epileptic medicine was given after operation

It is such cases as these and others somewhat similar that have convinced me of the occasional benefit of almost any kind of surgery in epilepsy The combined concomitants of the operation, its awe, impressiveness and solemnity, as well as the act itself, acting psychically on temperaments or minds specially susceptible, as in the historic cases mentioned in the beginning of my paper I think this interpretation may be applied also to many of the cures effected under the direction of Brown-Sequard, and that his claim of the removal of "peripheral irritation" could not now be applied to many of them

The same may be said of the numerous cures claimed by the advocates of the once popular Corsican remedy—cauterization with a red hot iron behind the ears This popular site of reflex agitation, then, could hardly, like the residence of an exiled prince have been relegated by the medical powers that be, to some more remote location Fashions may influence diagnosis but not pathology

I think the same analysis may be applied to the many cases reported by Baker Brown, M R C S Indeed, this surgeon was so successful in producing recoveries in epilepsy that his society, the Royal College of Surgeons, thought he was getting up a corner in cures and disciplined him Mr Brown was convinced by Brown-Séquard's "Lectures on the Physiology and Pathology of the Nervous System" and his theory of peripheral irritation that great mischief was caused to the system in general, and the nervous system in particular, by such excitement. He decided consequently that epilepsy was due to "storm" of the "pudic nerve," mechanically induced or rather that branch of it supplying the clitoris

Subcutaneous division of the nerve not being sufficient to effect a cure Mr Brown finally subjected his deduction to a more heroic surgical test by removing the clitoris altogether His amputations were done with a pair of scissors, afterward plugging up the scar with lint In a month the wound was healed and great numbers of patients were restored to health completely, "with all the vital powers greately strengthened" He reported many cures six and seven years after operation, and patients still free from spasms For a time he had many followers, when fashion again changed the habitat of the disease, this time to its former exalted location in the interior of the calvarium Since then besides the *cures celebre* following removal of actual tumors, etc, from the brain, Dr J Wm White in the *Annals of Surgery* in the two articles entitled "The Supposed Curative Effect of Operation *per se*" reports "extraordinary results from operations which proved to have no justification in a discoverable pathologic condition" He records ninety cases, in which trephining was performed, no lesion found nothing in particular done, and yet marked relief and complete cure followed

Drs Agnew and White record the case of a man "greatly epileptic" who years before received a blow on the head Trephining was done and nothing abnormal was found Eighteen months after operation he was still without convulsions

1 See De la danse de Saint Guy du XIV au XVII Siecle by F S Alfans Paris 1852 also the author's article Mimetic Diseases Journ of Zoopholy

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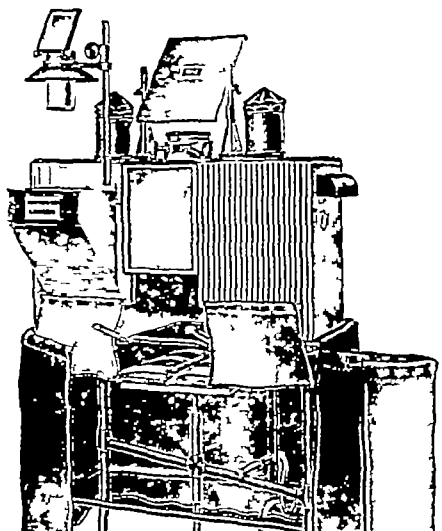
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A curious by-product of the criminal obsession is the feeling of remorse which often overtakes the patient. This remorse may follow in the wake of a specific criminal impulse, or it may bear on nearly every act in the patient's life. More curious still, it may originate in the idea of a crime toward which the patient has had no impulse whatsoever. Certain patients can not hear of or read about a crime without immediately accusing themselves of having committed it and experiencing all the tortures of remorse.

OBSESSIONS OF DISEASE.

Concerning the third order of obsessions, that of disease, it is curious to note that, while patients are absorbed in their sacrilegious and criminal preoccupations, they give but little thought to matters concerning their health or their lives. When, however, for any reason these preoccupations become temporarily less absorbing, in other words, when a patient gets a chance to think about his health, this becomes the object of the most extravagant ideas. At such times the thought of illness in all its forms, and even of death, absorbs all others.

One patient is much preoccupied about his heart, he counts its beats for hours together and is completely upset when he imagines that the beating is irregular. With heart disease as a starting point he sees the oncoming of cerebral hemorrhage with all its accompaniments. Another patient can not see a hearse, or go by an undertaking establishment, without thinking of his own death and funeral. Still another patient is troubled about the condition of his genital organs, and so on through the whole category of diseases.

OBSESSIONS OF SHAME OF SELF

The victim of the obsession of shame of self constantly entertains the idea that what he does, what he is and what belongs to him is bad. Many of these ideas have a strong religious coloring, the patient being dissatisfied with the manner in which he performs certain religious duties. The general tendency in all patients afflicted with this obsession is toward self-deprecation, and their dissatisfaction may bear on all forms of intellectual activity. The most distressing to the patient of all these ideas is, perhaps, that of becoming insane, and this idea gives rise to many of the mental manias which we will later discuss, such as the mania of interrogation, precision, etc.

OBSESSIONS OF SHAME OF THE BODY

The obsession of the shame of self has often only a purely physical bearing. In its most complete form, the shame is of the body as a whole, in other and less comprehensive cases it relates to certain parts and certain functions of the body only. Among the most curious of these obsessions is that of becoming fat, and the expedients adopted by patients to avoid this terrifying condition often threaten life itself. Other obsessions are those of awkwardness in the carriage of the body, or in the position of the limbs, of shame of the face, of the breasts of the pubic hair, of blushing (erythrophobia), of the handwriting (causing writer's cramp), etc.

From the division of the obsessions into five different groups, it must not be supposed that their origin differs with the group, or that they are lacking in bonds of union. On the contrary, the various groups are indissolubly linked one with another. The obsession of sacrilege is merely an exaggeration of that of crime, while that of shame of self and of the body connotes one or both of these, and the obsession of disease is nearly always traceable to that of shame of the body.

RELATION OF THE OBSESSIONS

A striking characteristic of all obsessions is that they have no bearing on objects in the outside world, but always on the acts of the patient himself. He is continually occupied with the thought of these acts, and his obsessions grow and flourish merely through the association of ideas. External objects have only a symbolic value in the growth of an obsession, they merely start the train of thought, the association of ideas that is the obsession.

Another peculiarity of the obsessions is that patients suffering from them are always impelled to do the very opposite of what they desire most to do at the moment. Furthermore, the conception underlying the impulse is so extreme, loathsome and foreign to the will of the patient that he recoils from it in horror. The content of the obsession, while retaining certain characteristics common to all cases, varies strikingly with the age, sex and civil state of the patient.

COMPULSORY IDEATION

In spite of the markedly impulsive character of the psychasthenic's ideation, it is important to note, in the overwhelming majority of cases, the lack of all tendency to resultant action. This failure to act, in other words, to put into execution the content of his impulse, is one of the psychasthenic's most striking characteristics, and one which marks his attitude throughout the entire course of the disease. Even in the action of his mind he does not go so far as to believe in his obsessions at least not altogether. On the contrary, he discusses and criticises them and even pronounces them absurd, but he can not voluntarily rid himself of them.

COMPULSORY ACTIVITY

From this compulsory or obsessive ideation it is but a step, and a natural one, to some form of compulsory activity, hence it is not surprising, in the clinical study of the psychasthenic, to find that such activity constitutes an important element in his sufferings, or, since like begets like, that it possesses attributes identical in all respects with those of the ideas to which it owes its origin, in a word, that it is excessive and serves no useful purpose. This compulsory activity is commonly manifest in the realms of thought, motion and emotion.

Compulsory activity of the first variety (thought) may be spoken of, in clinical terms, as mental manias, the word mania being used in the popular sense. These manias are of two orders, the systematized and the diffuse. In the first order come: 1. The mania of oscillation, in which the mind can not reach a settled conviction or come to a definite decision, but continues to oscillate between two propositions. 2. The mania of interrogation, in which the questions bear on the subject's looks, feelings, memory, etc. 3. The manias of hesitation and deliberation. In these the doubts of the patient bear on his acts and prevent all practical execution of such acts. 4. The manias of omens, or questioning fortune. In these the patient seeks, although in vain, the determinant of his actions in semimystic outside phenomena, and trusts nothing to his will.

These four species of mania are closely interrelated. In all the subject is unable to decide between yes and no, to settle the question of "to be or not to be."

Cholera carriers—A large number of examinations was carried out both in Amara and Baghdad to ascertain the fitness of convalescents for discharge from the isolation hospital We did not examine a case as a possible carrier till ten days after the subsidence of all acute symptoms

Cases were kept in hospital for six weeks or until three negative stool examinations had been made

We found that only about 8 2 per cent of cases carried the vibrio more than ten days, and out of some hundreds we only found two long period carriers, one five weeks and one seven weeks

Epidemiology—The Amara epidemic of 1916, was traced by Major J Morison pretty definitely to the Arab milk supply, which was found to be coming from an infected village and was being insufficiently heated before issue to the patients in hospital, amongst whom the outbreak first started

Chronic carriers were sought for amongst the hospital staff, but this source, though suspected in one hospital, was not proved

Diseases resembling cholera—It is remarkable that a force so dependent on tinned provisions such as bully beef should have been so little affected by food poisoning

We have already pointed out the value of using such media in the investigation of acute gastro-enteritis as will reveal any of the commoner causal organisms For this purpose McConkey's medium is undoubtedly the best

In September 1917, a British soldier was admitted to the cholera hospital with a distinctly severe attack When his stools were examined, no vibrios could be found on culture, but a very heavy infection of *B paratyphosus A* was demonstrated

It appeared that the man had been ailing for some days with fever and mild abdominal symptoms and had been sent down the line as "sand-fly fever" whereas in reality he had a mild attack of *paratyphosus A*, subsequently developing acute intestinal symptoms This was the only occasion when we found a paratyphoid infection simulating cholera In several cases of choleraic diarrhœa, we found *B fœcalis alcaligenes* to be the only unusual inhabitant and generally as a very heavy infection We were inclined to think that this organism is capable of giving rise to disease, as we have already indicated in our notes on the enteric group of diseases

More definite still is the pathogenic effect of *B pyocyaneus* infections This bacillus produces copious greenish fœtid and watery stools, with a seminal odour and signs of severe toxæmia Cases of pyocyaneus diarrhœa were quite definite and not very uncommon, but we never heard of one being fatal

B dysenteriæ, especially Shiga, is well known to give rise to severe epidemics of cholera-like disease The vomiting and watery purging only last a few hours and then the stools assume the usual characters of acute bloody dysentery We saw several such cases which had been unsuspected clinically, but where the McConkey plates were covered with fine dysentery colonies and the Dieudonne plates were sterile

A few groups of food-poisoning cases were seen and were generally members of one mess who had all partaken of a particular tin of bully beef or other tainted food

In one particular outbreak, seventeen cases occurred, the stools of nine of which contained *B enteritidis* (Gærtner)

They were all admitted for cholera, but no vibrios were found Two of the seventeen died

Cholera and fruit—In Amara, in the summer of 1917, a few cases of cholera began to appear and the Army authorities, mindful of the previous year's epidemic, became apprehensive

The melon season was in full swing and the familiar question of the relation of the fruit season to epidemics of cholera was raised by Army head-quarters and was referred by the D M S to us for opinion

The following paper represents the evidence on which we endeavoured to form an opinion

We have decided to publish it as it is without further comment, except to remark that its obvious imperfections and incompleteness may be excused when one remembers that it was carried out in addition to a mass of routine work and under conditions unfavourable to more exact observation

In view of the very prevalent idea that there is an association between outbreaks of cholera and the consumption of certain fruit, particularly melons, the following experiments have been done in Amara during the month of June 1917 The following are the theoretical considerations of the problem —

I The occurrence of cholera during the fruit season is undeniable

II This may be a pure coincidence and the association simply fortuitous

III If there is any real connection between the two factors, one may consider in what way the association may be brought about

1 The melons might become infected by being grown on sewage polluted soil, and the cholera vibrios obtain a footing in the flesh of the fruit during its growth We believe this to be a physical impossibility as we think that the movement of fluids in vegetables is brought about by a process of osmosis through cellulose barriers

2 The fruit may become infected in the bazars by flies, dust or other agencies and the vibrio may either grow or remain quiescent till it gains access to the human intestine

3 The consumption of large quantities of melon pulp may bring about an altered condition of the stomach or intestinal juices which may predispose to an infection of cholera obtained by other agencies, such a cause might be the overcoming of the natural acidity of the stomach by a mass of fruit pulp

is merely episodic the result of a given combination of circumstances Close investigation will always reveal the fact that a person who appears to run to a single form has in reality, been previously possessed of a dozen or more other forms This fact is indirectly proved in certain cases where a whole series of manias are linked together by association of ideas These cases represent that interesting condition known as mental rumination (*Ideen Flucht*)

ENFORCED REVERY

There is still another condition of enforced mental activity, which is observed in psychasthenics often at the outset of the disorder and before the more systematized obsessions manias, etc, become manifest This is the condition of enforced revery In this the patients find themselves constantly occupied to the exclusion of all voluntary legitimate and useful mental operations with thoughts which they clearly recognize as foreign to them but which enter their minds and, so to speak, pullulate therein with incredible rapidity These thoughts are not essentially pathologic in character, they are reflections, recollections of the past imaginations concerning the future meditations, discussions, etc, characterized by their irresistibility and their power to cripple useful thought and action

A comparison of these enforced reveries with the mental rumination and the manias previously described shows that they all result from a mental activity which is beyond the patient's will to control They embrace, furthermore the major part of the intellectual operations—associations of ideas, memory, imagination, judgment, reasoning—in a word, every sort of operation which has to do with mental images and abstract ideas There is unfortunately, nothing about them which leads to real and concrete accomplishment, and it is this characteristic which gives them their special cachet and justifies the designation of compulsory mental activity This same characteristic stands forth very prominently, as we shall presently see in the same sort of activity originating in the realm of motion and emotion

COMPULSORY MOTOR ACTIVITIES

With regard to the compulsory motor activities, it may be said that, like the enforced mental varieties just considered, they are neither in harmony with external circumstances nor with the desire of the patient. They are, however neither unconscious nor entirely involuntary The patient is aware, at least in part, that they are performed and that they are performed because he wills it, but he feels compelled to have this useless and absurd volition

These enforced activities may be of two orders—the systematic and the diffuse, when systematic they constitute the ties, when diffuse, the crises of agitation

The tic presents certain characteristics, the most striking of which is that it resembles that systematic ensemble of movements called act Its second characteristic is that it is a sterile and inopportune act Lastly it is an act accompanied by phenomena of consciousness, volition and thought To resume these characteristics a tic is a complex of systematized movements, an act reproduced regularly and frequently, but always in a useless inopportune and incomplete manner, because of the fact that the will feels itself forced into its accomplishment

In the first group of these phenomena come the so-called tics of attaining perfection comprising

1 The immobilities associated with the mania of oscillation These are attitudes assumed by patients to justify their inactivity in the eyes of spectators, one holds a book in the hand, another remains standing with the foot poised in the air as if in the act of advancing A large number of tics are attached to the manias of precision and verification Among these are (a) the constant shaking of the head to get the hat properly in place, and (b) the repeated looking in the glass and the feeling of certain parts of the body or of the clothing to make sure that everything is in place and in proper condition One patient keeps feeling of her limbs, body and chest to reassure herself that she is not getting fat, another shakes her head to be sure that her earrings are all right, and so forth and so on Gradually the primary idea which caused the tic disappears and the movement is executed rapidly in an incomplete and incessant manner Analogous tics result from the other manias of perfection above cited

2 Tics of defense These are composed of movements made by patients to compensate for some disagreeable thing, or to defend themselves from some harmful influence Tics of this sort are very numerous and varied, each tic corresponding to the mental mania which gives rise to it In general, it may be said, however, that the mental mania is apt to be least developed where the tic is most complete, but as analogous tendencies give rise to the one or the other of these two phenomena, it is only right to group the tics after the fashion of the mental manias

CRISES OF AGITATION

Next in order come the diffuse motor agitations—the crises of agitation—which are analogous to the diffuse mental activities already described The most curious of these is

1 *The Crisis of Effort* In this the patient, dissatisfied with himself and desiring to do better, concludes that he must do as normal individuals do under the same circumstances, that is, make efforts, but, unfortunately for him, these efforts are soon transformed into a mania One patient makes sufficient effort to raise a heavy burden before opening a door or saying his prayers, and goes through contortions for hours Another goes through the most frightful contortions several times a day These are voluntary or semi-voluntary and are indulged in whenever the subject feels or imagines that some action of hers is bad, that a thought is shameful or that she is going to have one of her obsessing mental images

2 *The Crises of Walking and Talking* Certain patients who are troubled by an act or an idea experience a more or less irresistible impulse to walk, and their trouble ceases only when they have traversed a long distance After the walking crisis has passed the patient returns calmly home, there is no coming to with surprise, and the memory of what has taken place is practically complete On the same basis arises the crises of talking The patient under mental stress experiences an overmastering impulse to talk to tell all his woes to the first comer The crisis may last for hours and disappear only when the patient has covered innumerable sheets of paper with the account of his feelings

3 *The Crises of Excitation* In this final class the motor agitation may be more diffuse, more incoordinate The patient, after some impotent effort of the will, or in consequence of some slight emotion, suddenly arises, ceases his work interrupts some mental mania or interrogatory rumination and gives himself up to a disordered agitation This agitation soon changes from

The three fruits were then invaded with *B pyocyaneus* and the vibrio could not be recovered after 24 hours

2nd Experiment —

The vibrio was recovered and proved to be pure in the melon after 120 hours and in the cucumber and tomato after 72 hours The reaction of the fruit remained acid except that of the melon, which at the end of the time was invaded by a spore-bearing organism (from the rind) and the reaction changed to alkaline The vibrio then died out.

3rd Experiment —

The skin was carefully sterilised before section Vibrios in pure culture were found to be present in luxuriance after 168 hours in the case of the melon The reaction of the fruit was still acid

It was not easy to say whether the vibrio had increased or decreased, but the growth on agar at the end of a week was as luxurious as after 24 hours The fruit was then invaded by a spore-bearing organism like that in experiment 2 The reaction became alkaline and the vibrio could not be recovered

In all cases the identity of the vibrio was proved by all available laboratory tests including the agglutination with high-titre serum A variant of the above experiment was made by squeezing out juice from a melon, tubing it and sterilising it at 100 degrees C for 2 or 3 successive days and using this fluid medium, in one case without changing its acidity, and by alkalinising it in another

The vibrio did not appear to flourish in the medium, the alkaline medium became acid after two days' growth, and the vibrio could only be recovered up to 48 hours, after which it died out in both kinds of medium The medium may have been modified adversely by heating, as a smell of caramel was detected suggesting that the process of steaming had decomposed the fruit sugar

If sugar is the nutrient property on which the cholera vibrio supports itself, it would explain why it died out in the heated medium

CONCLUSION —*Despite the natural acidity of the fruit, the cholera vibrio is able to live and probably to increase in numbers on the cut surface of a melon for as long as a week This makes the danger of exposing cut or ruptured melons to the dust and flies of the bazar to be a real one*

(*e*) *Experiment to ascertain what bacteria are to be found on the surface of cut or ruptured melons exposed for sale in the bazar* —This experiment needs to be done before one can say whether the facts we have produced artificially are ever found under natural conditions It is probable even in epidemic times and in infected neighbourhoods that a very large number of experiments would have to be done before one would be lucky enough to find an infected melon

This and the departure of the senior writer on leave prevent this part of the enquiry being carried out

Further experiments on similar lines might be done using *B coli* as an index of faecal contamination (by dust or flies or human handling) and the behaviour of other intestinal pathogens, *e g*, the enteric and dysentery group bacilli on the pulp of fruit, but as far as this paper goes, a few final conclusions are warranted

GENERAL CONCLUSIONS

1 The inside of fresh unruptured fruit is sterile

2 The reaction of melons and tomatoes is strongly acid and of cucumbers is mildly acid at all stages of ripening

3 The temperature of these fruits is lower than that of the external atmosphere by—

13 89 F (7 7 C) in the case of the melon
15 98 F (8 8 C) in the case of the cucumber
6 01 F (3 34 C) in the case of the tomato

4 The cholera vibrio can be recovered from melons 7 days and from cucumbers and tomatoes 3 days, after they have been inoculated Melon pulp appears to be a particularly suitable medium for the growth of cholera germs

These few experiments justify the following advice to troops —

(1) *Undamaged melons, cucumbers, and tomatoes may be eaten with safety*

(2) *Ruptured or damaged fruit, and especially sliced melons which have been exposed in the bazar, should be strictly avoided*

A NEW FORM OF CUTANEOUS LEISHMANIASIS—DERMAL LEISHMANOID

By U N BRAHMACHARI, M.A., M D , PH.D ,

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THE following paper on a "New Form of Cutaneous Leishmaniasis" was read by me at the meeting of the Medical Section of the Asiatic Society of Bengal held on 8th February, 1922

The various forms of cutaneous and mucocutaneous leishmaniasis are divided by Castellani and Chalmers as follows —

(1) Cutaneous
(2) Muco-cutaneous
(3) Oro-pharyngeal

The cutaneous forms are divided by them into —

(*a*) The common variety—The oriental sore
(*b*) The verrucose variety
(*c*) The keloid-form variety
(*d*) The framboesiform
(*e*) The Papillomatous variety
(*f*) The deep ulcerative variety

Laveran describes the following forms of cutaneous leishmaniasis —

(*a*) The oriental sore
(*b*) American leishmaniasis
1 The cutaneous ulcerating form
2 The cutaneous non-ulcerating form which may be either

with this pantophobic tendency can not make her way over a street crossing without being thrown into a crisis of anxiety by the fear that a wheel may become detached from a passing vehicle and run over her She can not walk along the sidewalk without being thrown into the same state by fear that a tile may become detached from a roof and hit her on the head She can not sit at the table without the anxiety attendant on a fear of choking She can not leave the house without being overwhelmed by the fear that one of her family may have died suddenly, and so rushes back to reassure herself Every act, every event, every incident in her life becomes the signal for the starting of an anxious state, whose special form is determined by the chance occasioning factor

In other cases—the purest type—the intellectual element (occasioning factor) is entirely absent The patient has a crisis of anxiety, in which she throws her arms and legs about, moves about the room, strikes the furniture, pants, has a rapid heart action, cries, despairs complains of feeling badly, of being unhappy, and declares that something untoward, she can not tell what, is going to happen For this crisis she can assign no intellectual cause whatsoever, a fact which demonstrates that the anxious state does not always take the systematic form of the phobias, but may be vague, diffuse and lacking entirely in connections with a given intellectual phenomenon

The anxious states are often accompanied by physiologic perturbations of great clinical interest These perturbations are difficult to observe with minuteness and accuracy, since the crises do not recur at regular hours, or even at times always favorable to observation On the contrary, the patient is apt to arrest his crisis altogether before spectators, or the crisis is apt to melt away before attempts at analysis On examining patients who complain of great weakness, or even paralysis of the limbs during a crisis, one finds only slight degrees of muscular weakness which may be made to disappear by persuasion One does, however, find ataxia and incoordination sufficient in extent to interfere with the finer associated movements The speech also is often affected, becoming staccato, hesitating and confusing

One must not conclude from what has been said concerning these physiologic disturbances occurring in the anxious states that these phenomena constitute the whole clinical picture, on the contrary, these states are equally cerebral and intellectual and are very striking in character During the crisis the patient experiences all kinds of queer sensations in the head and feels as if he were going insane In addition to this terrifying feeling that his reason is departing, he often has also the equally comforting conviction that he is going to die, that he can no longer perceive the outside world, that he does not know where he is or who he is, or that he has lost his liberty and become a mere automaton without control over his acts

PATHOLOGIC IDENTITY

To any one who has had the patience to follow the preceding minutely detailed exposition of the semeiologic manifestations of the morbid conditions under consideration it must be obvious that their pathology is identical The fact that they are not always all present in the same case that the existence of certain groups of them in certain cases may produce a clinical picture apparently widely at variance with that produced by a different grouping in other cases in nowise militates against this notion of the identity of the pathologic condition underlying them The starting point in all is a morbid ideation, not, however, an indifferent and vague morbid ideation, but a particular form which the subject himself recognizes as morbid and against which he, for a time at least, struggles As a natural consequence of this morbid ideation we should expect morbid action, and this has been thoroughly exemplified in its various forms —intellectual emotional and motor, finally, it should excite no surprise that these morbid activities show wide variations, since but few organisms react in identical fashion to a given stimulus

From all that precedes it is, therefore, logical to contend that all the symptoms described, whether in a given case they appear singly or in groups, should have one and only one clinical designation, and that all terms, such as disease of obsession, *folie du doute,* manias (of all kinds), phobias, tics, etc, when used to imply that the symptom or group of symptoms they cover, are real clinical entities, are erroneously used, to the detriment of clinical precision Whether or not the term psychasthenia is the proper substitute for all these various misnomers remains to be demonstrated

Before leaving this portion of the paper I wish to make clear the fact that the conditions of enforced activity above described, whether intellectual, emotional or motor, are not continuously in play in a given case, neither are they wholly irresistible They represent crises which may be followed by periods of comparative calm, that is to say, periods during which only the most attenuated forms of rumination and the anxious states appear to occupy the patient's mind The systematized forced activities, such as the tics and the phobias, are really brought out only by distinct occasioning factors, such as 1, Attempts to execute something willed, a voluntary action, which may be purely bodily (the movement of a limb), or more complicated, such as the performance of some professional or social duty, 2, negative action, or the attempted restraint of an action which is distasteful, or may have untoward results, 3, attention, 4, emotion

In the intervals between the crises the patients present certain characteristics, or stigmata, which are noteworthy, but before proceeding to a consideration of these I propose to take up certain important preliminary matters pertaining to the psychasthenic, namely, his heredity, the synthetic operations which constitute the upbuilding of his personality, and the age at which the partial disaggregation of this personality, which we term psychasthenia, first becomes manifest

HEREDITY IN PSYCHASTHENIA.

In studying the ancestry, both immediate and remote, of the psychasthenic one finds abundant evidence of its importance as a predisposing influence At least 75 per cent of the cases of psychasthenia come from families in which mental alienation in some form or other has appeared in more than one generation It is found, moreover, that alcoholism, tuberculosis, syphilis and arthritism in the ancestry also occupy a prominent pathogenetic rank Still more interesting and convincing is the finding that either the father or mother of the psychasthenic may be afflicted with the same trouble, and that the patient bears a strong physical resemblance to the afflicted parent In still another group of cases, where the immediate forebears are not actually psychasthenic, they nevertheless present many stigmata of mental and physical insufficiency such as timidity, lack of balance and sound judgment, indecision, morbid emo-



Dermal Leishmanoid—showing the eruptions in the upper half of the body.

tered, especially noteworthy being the feeling of perpetual disquietude which springs from the inability to achieve completeness in any sense

Among all these feelings of incompletion none is so interesting or so important as that in regard to the personal perception The psychasthenic's perception of self may be modified in one of three ways In the first he experiences merely a sense of strangeness with regard to himself, he is aware that in his thoughts, feelings and reaction to his environment he is not entirely his old self In the second he recognizes an actual splitting up of his personality into two distinct and separate units, one of which seems to stand apart, powerless to control the bizarre thoughts and acts of the other, while in the third there is complete annihilation of the original personality, with substitution of another which is in every sense inferior to the original

ETIOLOGY

Psychasthenia is of two orders, the hereditary and the acquired, and its onset may be either gradual or sudden Among the alleged immediate exciting causes nearly every known form of disease to which the flesh is heir may be found In the judgment of certain writers the causal relation of masturbation to the disorder is to be strongly emphasized, and without entering on a discussion of this subject, I wish to express myself as decidedly in accord with such a view

In cases which are said to come on rapidly, after some emotional shock or some infection, one finds himself in the presence of the symptoms already described, in their complete form These cases are, however, rare and a close analysis of the antecedents of many such will reveal the pre-existence of the symptoms indicating a more or less profound lowering of the nervous tone In the more slowly developing cases feelings indicative of psychologic insufficiency are apt to have existed for years prior to the actual outbreak of the disease whose *début* is often marked by aprosexia, doubts and incapacity for all mental efforts

The matter of treatment does not fall within the scope of this paper As to the course of the disease, it may be said in a general way that it shows a certain tendency to chronicity, but such a prognosis does not by any means apply to all cases The acquired form often disappears with the removal of the exciting causes, while the hereditary is marked in many cases, by long remissions and by semi spontaneous recovery after the patient has reached middle life The complications of the disease will be spoken of later

PATHOLOGY

Turning now to a consideration of the pathology of psychasthenia, we are compelled from our ignorance of the material morbid changes which underlie mental diseases in general to discuss the question in psychologic terms only From our knowledge of the clinical manifestations of the disease we may say that the psychasthenic is a person who has suffered a partial disintegration of the personality a change in the ego, which is distinct and peculiar The subject is not in any true sense insane, yet he undergoes such a transformation in his manner of thinking, willing and doing that he can not keep pace with the movement of the everyday world about him He finds that his transformed ego lives in the realms of the abstract produces only unwelcome ideas which have no practical utility bear no relation to the concrete, the actual and the real, and which lead to actions that are as incomplete as they are sterile in practical achievement The feeling of unreality, both in its relation to the personality and to the outside world is fundamental in psychasthenia and is of paramount importance in establishing the nosologic status of the disease which is, in reality, a *forme fruste* of intellectual *petit mal,* a sort of diluted *Dämmerzustand*

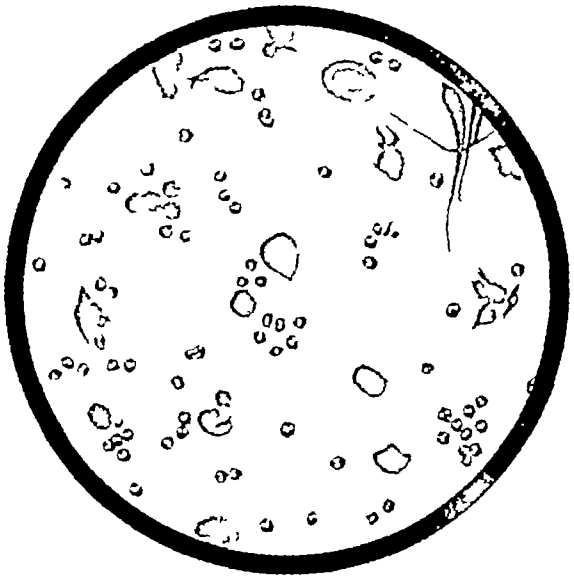
This designation is, moreover, no mere figure of speech If we compare the automatic acts of the victim of psychic epilepsy—running as they do through the whole gamut of executed ideation, from the mere removal of portions of the clothing to the commission of every conceivable form of crime—with the ties and criminal impulses of the psychasthenic, it must be obvious that the pathogenetic substratum is identical in kind and that the sole difference between the two cases lies in the fact that in the psychasthenic the reasoning and restraining ego is not completely submerged, while in the epileptic it is There is still another bond of union between the two states, which is very striking In the psychasthenic the psychologic tension is not always at the same dead level, as the symptoms prove There are constant oscillations in this tension, which are not the result of the obsessions, but occur unexpectedly and bring about the feeling of unreality and depersonalization In the epileptic, likewise, the lowering of the psychologic tension is not always sufficiently sharp and extensive to abolish consciousness completely, and the patient has the same feelings of strangeness and unreality, both in the perception of self and of the outside world, which are common to the psychasthenic And in final support of my contention I would adduce the fact that a certain number of psychasthenics do ultimately develop the major form of epilepsy

PSYCHASTHENIA DIFFERENTIATED

From hysteria, psychasthenia is distinguished pathologically, as Janet[4] has pointed out, by the fact that the disturbance of consciousness which marks it is general Throughout the psychasthenic's whole field of consciousness there is evidence of activity, however feeble and fruitless it may be, while in that of the hysteric all activity is carried on within a narrow corner Hence the psychasthenic never exhibits a completeness in any of his pathologic phenomena He has impulses, but doesn't carry them out, he has hallucinations, but they do not seem real to him and he is never deceived by them, he has obsessing ideas, but knows they are false and is the first to doubt them, he has periods of agitation and periods of immobility, but never gets as far as a real "attack" or a somnambulism His crises are never followed by amnesia, he feels at times a doubling of his personality, but always knows the thoughts of the second ego This characteristic incompleteness is also found in the normal phenomena which he retains He does not perceive or remember well, his attention and execution are defective, but he is never completely anesthetic, amnesic or paralytic He is, in a word, incomplete always and in all respects, but never gets farther than this state of general insufficiency For him there is a veil over the higher psychologic phenomena, which removes them from him at all points without causing any definite and profound gap at any particular point

The hysteric, on the other hand, exhibits important differences in every direction In the first place the phenomena he retains are complete in every way and attain reality He has no doubts concerning his person-

4 Les Obsessions et la Psychasténie 1 p 734



Leishmania Donovani in a smear from the scrapings of the papillomatous nodules

(Fig 1) Walsham and Orton,[4] in their recent book, have emphasized the same observation The margin of the phrenic contour as seen against the clear lung area should be sharp and clean Hazy irregular and indistinct outlines may indicate fibroid changes in the pleura or lung bases

The extent of the phrenic excursions, measured by the Roentgen ray as established by different authorities, varies from 2 cm (¾ in) in quiet respiration to 6 or 8 cm (2½ or 3 in) in forced breathing These figures represent an average taken from a large number of examinations, and variations from these figures may be encountered in examining any given individual The maximum excursion in forced inspiration can often be brought out only after several trials and some practice on the part of the patient in abdominal breathing But whatever may be the variation in the absolute extent of the phrenic excursion, any variation in the relative movements of the right and left halves of the diaphragm is as Williams[5] has pointed out very significant The right and left domes should move equally and together

Alteration of the well-arched character and mobility of the phrenic dome is a constant accompaniment of chronic pulmonary tuberculosis, especially after much fibrosis has occurred and particularly as a sequel of basal consolidation and basal or diaphragmatic pleurisy The commonest picture in the cases of unilateral tubercular involvement is a high well arched dome on the affected side which moves only slightly or not at all, and a low flattened dome on the unaffected side the latter being due probably to compensatory emphysema of the healthy lung (Fig 2)

Other cases of chronic phthisis especially the extensive bilateral ones, may show a high position and diminished excursion of both sides Still other cases of chronic pulmonary tuberculosis will show a flattening of both sides with partial immobility, either at a high or low level (Fig 3)

The high position of the phrenic dome with limited excursions in chronic pulmonary tuberculosis has been variously ascribed to deficient lung expansion due to consolidation or fibrosis or to occlusion of one or more of the larger air passages Other authorities have attributed it to adhesions with the pleura and the base of the lungs Again, pressure on the phrenic nerve by inflammation and adhesions as it comes in relation with the lung apices has been advanced as a cause That such a cause may possibly operate is shown and described in Figure 4

PHRENIC FLATTENING

The flattening of the phrenic contour with more or less fixation at a low level in the chest may be the result of compensatory expansion of the remaining healthy parts of the lungs When this flattening occurs at a high level it may be the sequel of a chronic basal indurative process That adhesions do form and alter the shape and restrict the movements of the diaphragm may be optically demonstrated Figure 5 shows a skiagram of the chest of a young adult who has made a good recovery from a right-sided pleurisy, with effusion, of tubercular origin On examining this chest with the fluoroscope during quiet breathing nothing abnormal was noted The phrenic levels and contour seemed to be normal, the excursions having an amplitude of about 2 cm (¾ in)

But when the patient drew a moderately deep inspiration the right side of the diaphragm was seen to halt

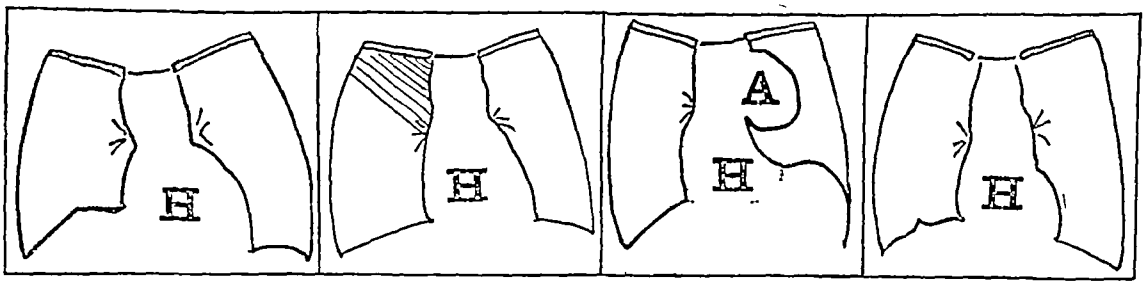


Figure 2. Figure 3 Figure 4 Figure 5

Fig 2.—Tubercular consolidation of the right apex Note the high position of the right dome of the diaphragm and the kink in its contour The position of the heart is indicated in all the diagrams by H

Fig 3.—Complete consolidation of the right apex with low flat position of both sides of the diaphragm probably due to compensatory emphysema.

Fig 4.—Large aneurism (A) of the descending arch of the aorta with elevation of the diaphragm on that side the other side being low and flat

Fig 5.—Healed basal pleurisy Note the small elevation (kink) in the right dome of the diaphragm due in all probability to a fibrous adhesion

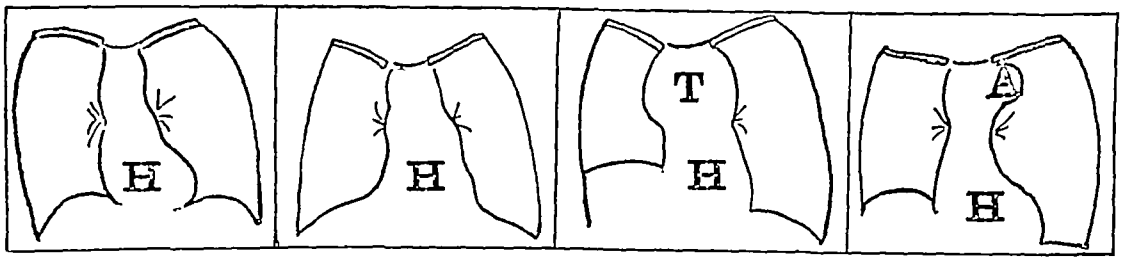


Figure 6 Figure 7 Figure 8 Figure 9

Fig 6.—A normal chest of a young adult

Fig 7.—Chronic pleuropericarditis This plate shows a flattening of both sides of the diaphragm with the obliteration of the cardio phrenic angles (compare Fig 6)

Fig 8.—Mediastinal sarcoma (T) causing elevation of right side of diaphragm by pressing on phrenic nerve

Fig 9.—Aneurism (A) of the descending arch of aorta with low flat position of the diaphragm on that side

4 The Roentgen Rays in Diagnosis of Diseases of the Chest.
5 Amer Jour Med Sciences 1897 p 665

nodules which are extensively spread over the whole body. A few papules are also present in these parts.

(4) There are some pigmentary patches in the exposed parts especially the lower.

(5) No ulceration or scab formation in any part of the body. Other features—no anæsthesia, no loss of hair, no thickening of the nerves. No eruptions on the mucous membrane of the mouth and nostrils.

Liver and spleen normal. On examination of the spleen blood obtained by puncture no L. D. bodies were found. No rise of temperature. The patient complains of no other trouble except the ugly appearance of the body due to the eruptions.

Result of blood examination on 1st February 1922 —

Hb. 75 per cent.
R. B. C. 4,500,000
W. B. C. 10,000
Polymorphonuclears 62 per cent.
Lymphocytes 24 per cent.
Large mononuclears 6 per cent.
Eosinophils 8 per cent.

The blood report does not at all correspond to that of kala-azar. No L. D. bodies could be detected in the peripheral blood.

Examination of the scrapings—L. D. bodies are found in very large numbers, especially in the juice expressed from the papillomatous nodules. A few have also been found from the brownish patches. No lepra bacilli.

In view of the fact that the eruptions are due to leishmania infection whose virus has been modified by antimonial treatment, I propose to call this form of cutaneous leishmaniasis *dermal leishmanoid* just as small-pox modified by vaccination is called varioloid.

I shall study the morphological character of the flagellate forms of these parasites after culturing them with the help of Major Knowles, I.M.S., Protozoologist, Calcutta School of Tropical Medicine.

This case, along with three others of a similar type that I have observed, is a remarkable one, as they appear to point to the identity of the parasites of visceral and cutaneous leishmaniasis.

It seems that the virus of the parasite of kala-azar was attenuated in these cases by the antimonial treatment and a case of deadly visceral leishmaniasis was converted into one of cutaneous leishmaniasis. We thus have a direct proof of the identity of the parasites of visceral and dermal leishmaniasis, which has been attempted to be proved indirectly by complicated inoculation experiments.

Of the three other cases met with by me, one resembled the present case in the rash being generalized over the whole body. The other two cases had less generalized rash, most of the papillomatous eruptions being present on the face there being some brownish patches over the arms.

One of these cases was treated with further injections of antimony and he appeared to improve. The second one, a boy of 15 years, was given six intravenous injections of tartar emetic in doses of 3 to 5 c.c., but he left treatment before any improvement was noticed. I propose to treat the present case with combined treatment of intravenous injection of antimony and soamin and shall report the results in a future communication.

It has been suggested by Manson that the treatment of kala-azar with a vaccine made from the virus of oriental sore is worth trial. May it be further suggested that in places where kala-azar is very prevalent, the inhabitants should be vaccinated with the virus of oriental sore as a prophylaxis against kala-azar?

Apart from the interest in the above case on account of its forming a new hitherto unknown clinical entity, it raises the following most suggestive questions —

(1) Are the parasites of kala-azar in the process of destruction by antimonial treatment eliminated by the skin and are cases of kala-azar therefore more infective during antimonial treatment?

(2) If the parasites are eliminated by the skin, do they also enter the system through the skin at the time of primary infection?

The above case, after being exhibited by me at the meeting of the Medical Section of the Asiatic Society of Bengal, held on 8th February, 1922, was exhibited at the Calcutta School of Tropical Medicine on 9th February, 1922.

I append here a drawing showing the eruptions on the upper part of the patient's body. A drawing from the scrapings from one of the nodules is also appended herewith showing the presence of Leishmania donovani which mostly seem to be extra corpuscular in the smear. As stated before, I have met with four cases of dermal leishmanoid.

Perhaps such cases are more common than has been suspected and more cases will be met with by observers who are treating kala-azar with antimonial preparations.

I am indebted to the Editor, *Indian Medical Gazette*, for announcing my discovery of this new form of cutaneous leishmaniasis in the *Indian Medical Gazette* for March, 1922.

I suggest that workers in the field of kala-azar should look out for such cases of infection by Leishmania donovani *sine* kala-azar as a result of antimonial treatment.

Since the above paper was sent to the editor, *Indian Medical Gazette*, I have succeeded in developing flagellated forms of *Leishmania donovani* with the help of Major R. Knowles, I.M.S., on N.N.N. medium from the juice obtained from the eruptions by puncture. Blood cultures were negative.

the individual is lying, standing or sitting The phrenic level (according to Holzknecht) is highest when the patient is recumbent in which position the abdominal contents, acted on by gravity, push against the diaphragm When standing the diaphragm is slightly lower than when lying down The force here is the rigidity of the abdominal walls exerting pressure on the viscera, which force is partly counteracted by gravity pulling the abdominal contents away from the diaphragm In the sitting position the diaphragm is lowest, for in this attitude the abdominal musculature is partly relaxed and the force of gravity acting on the abdominal contents less opposed sucks the diaphragm downward

The diaphragm functionates in an analogous manner to the other muscles of the body Its excursion is greatest when its points of origin and insertion are most widely separated, and it acts more forcibly against resistance than when acting unopposed This has been beautifully shown by Holzknecht[6] on a patient lying in the lateral position (on his side) That half of the diaphragm nearest the table (i e, the lower half) suffers most of the weight of the abdominal contents and consequently stands higher than the opposite or upper half

But notwithstanding this pressure, its excursion is greater than the opposite unopposed half This upper half, furthermore, acts very peculiarly It stands comparatively low and instead of sweeping up and down with its fellow of the lower side it remains almost motionless, swinging in a sort of pendulum fashion about an axis which runs through its middle point In other words, its excursion is decreased because its points of origin and insertion are approximated and because its action is unopposed

The accompanying outline sketches of original skiagrams were selected at random to illustrate the various phases of abnormal diaphragm relations

The exposures were made with the patient in a sitting or standing posture respiration suspended after a moderate inspiration, plate in front, tube behind, target at a distance of twenty inches from the plate Time, five to fifteen seconds, eight to ten milliamperes of current traversing the tube

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THE CHOICE OF A VASODILATOR AND THE INDICATIONS FOR VASODILATATION *

HENRY WIREMAN COOK, M.D
MINNEAPOLIS

In several recent articles I have asked for greater attention to the use of sodium nitrite as a vasodilator in preference to nitroglycerin and amyl nitrite The administration of the sodium salt during the past four years in numerous cases where arterial relaxation seemed indicated and under the control of blood pressure determinations has graphically demonstrated the efficiency and permanency with which proper doses of sodium nitrite will lower arterial tension Comparative observations with amyl nitrite and nitroglycerin have invariably proved favorable to the sodium compound I have made only a limited number of observations with erythrol tetranitrate introduced by Prof Bradbury of England, and could demonstrate no advantage over the sodium salt It is very expensive, a dozen tablets costing one dollar

Accurate methods of observing changes in pulse tension applicable to clinical usage have done much toward introducing and establishing in medical practice many facts concerning the action of drugs on the heart and vessels which have long since been demonstrated in physiologic work It is a difficult and tedious process for truths established by physiologic experimentation to supplant the firmly rooted fallacies of faulty clinical observation Nitroglycerin and whisky are even yet lauded from time to time as heart stimulants, and preparations of the adrenal glands for pulmonary hemorrhage When, however, the practitioner has the means of accurately following the effects of the drugs he administers, he can break away from the traditional legends which have been handed down to him, and can himself detect the fallacies in the recommendations of some enthusiastic colleague or some enterprising concern

Any one who had accurately followed the results of alcohol or an active preparation of nitroglycerin would no longer rely on them to raise blood pressure, even though the pulse might "feel" stronger and a single observation of the powerful blood-pressure raising effect of adrenal preparations would give sufficient warning of their danger in internal hemorrhage or in weakened conditions of the heart muscles In no instance have accurate clinical methods been of greater value than in defining and broadening the use of vasodilators Medicinal means of dilating the arterioles and so lowering blood pressure have an important place in general therapy, for a high tension pulse accompanies many chronic diseases induces severe symptoms, and may precipitate a fatal termination

THE SPHYGMOMANOMETER

The use of vasodilators has been greatly broadened by the growing use of some form of sphygmomanometer, or instrument to measure blood pressure, so that the indication may be definite and the action accurately followed

The first instrument made in the country for the measurement of blood pressure, suited to clinical usage, was my modification of the Riva-Rocci principle, devised from a modification which Dr Cushing had brought from the Italian clinic to the Johns Hopkins Hospital I have used the same instrument continually for three years with merely a change of rubber tubing, and believe it is the most practical and satisfactory for the general practitioner, as it is simple, and easier to use at the bedside than the later more complicated instruments It is now made with an improved wide arm piece

In the large majority of cases where it is desirable to lower arterial tension, and where dietetic and general measures are inadequate or inapplicable, the desideratum is not to weaken the propelling force, but to lower the resistance Hence cardiac depressants are not indicated but vasodilators This is not true in a certain minority of cases, particularly in acute diseases in children where a run-away, overirritable heart needs repression, and aconite may be indicated In some cases aconite may be used advantageously in conjunction with vasodilators, as especially recommended by Babcock

Although this paper is devoted to the administration of drugs a word should be said of dietetic and general measures which have the same effects on arterial tension in certain cases as the vasodilator, that is, they tend to lower an abnormal hypertension Where the

6 Physikal u Inthol d Atmung p 9

* Read by invitation before the Medical Club of Minneapolis, 1907

GRAPH I

CURVE OF NORMAL INDIAN INFANT
DURING THE FIRST YEAR

the rise is more gradual, at the end of the 24th out in England under the

breath, etc, on lying down I have found it most convenient to give sodium nitrite in triturates of one-half and one grain each They may be given by mouth or hypodermically

Although the observation of an abnormally elevated blood pressure may be the indication for the use of a vasodilator, this is not essential, for vasodilatation may be indicated with a normal or even a subnormal blood pressure, for instance in internal hemorrhage where the vessel can not be caught and tied In such cases, as has been repeatedly observed, the hemorrhage will often stop spontaneously when the patient has become so greatly exsanguinated that the very low blood pressure allows a firm clot to form The advantage to the patient is obvious when this result can be obtained by bleeding the patient into his own blood vessels instead of into the abdominal cavity or a pulmonary vomica Where vasodilatation is produced and maintained until the danger from further hemorrhage is past the blood has been merely stored in the dilated vessels and can be restored promptly to the circulation by withdrawal of the drug

In reviewing briefly the indication for the use of vasodilators, I shall group them under two main headings according as to whether they are associated with (1) low and normal tension, (2) high tension

ASSOCIATED WITH LOW TENSION

First, cases with low and normal tension where vasodilators are indicated (a) Hemorrhage uncontrollable by ligature, compression, or local application Under this would come ruptured extrauterine, postoperative, postpartum and traumatic hemorrhage where surgical methods of ligature, suture and packing may either not be applicable, or may not have controlled the flow entirely, hemorrhage from bowels in typhoid, hemorrhage from stomach as in ulcer or cirrhosis, aneurism, hemorrhage in phthisis Here the hemorrhage is the indication for the vasodilator and not the blood pressure reading

The blood pressure may be reduced as low as 70 or 75 mm Hg without danger to the patient. With a pressure as low as 75 mm Hg, however, I should not advise further reduction, as a blood pressure much below this point seems to cause respiratory distress through lack of circulation in the respiration center However, in severe hemorrhages as is well known, after the blood pressure has fallen below a point at which peripheral pulsation can be felt the hemorrhage may stop before a fatal amount is lost, and such patients have rallied and recovered even after they had been pulseless

In operative procedures where control of bleeding is difficult a lowered tension from nitrite will be found of great assistance For instance in a Gasserian operation on a man with arteriosclerosis and high tension, the hemorrhage obscured the field and was alarming but was easily controlled after reduction of the tension Again in a complete hysterectomy operation as advised by Sampson for carcinoma, the bleeding, encountered deep in the pelvis, was uncontrollable until the tension was lowered nearly 50 per cent

In the treatment of aneurism the formation of a clot is favored by a low tension and where the sac is wired, an induced low tension tends to lessen the danger from embolus—as well as to hasten the formation of a clot I should further advise the use of vasodilators in cases of venous thrombi as the lowered tension would also here lessen liability to embolus

ASSOCIATED WITH HIGH TENSION

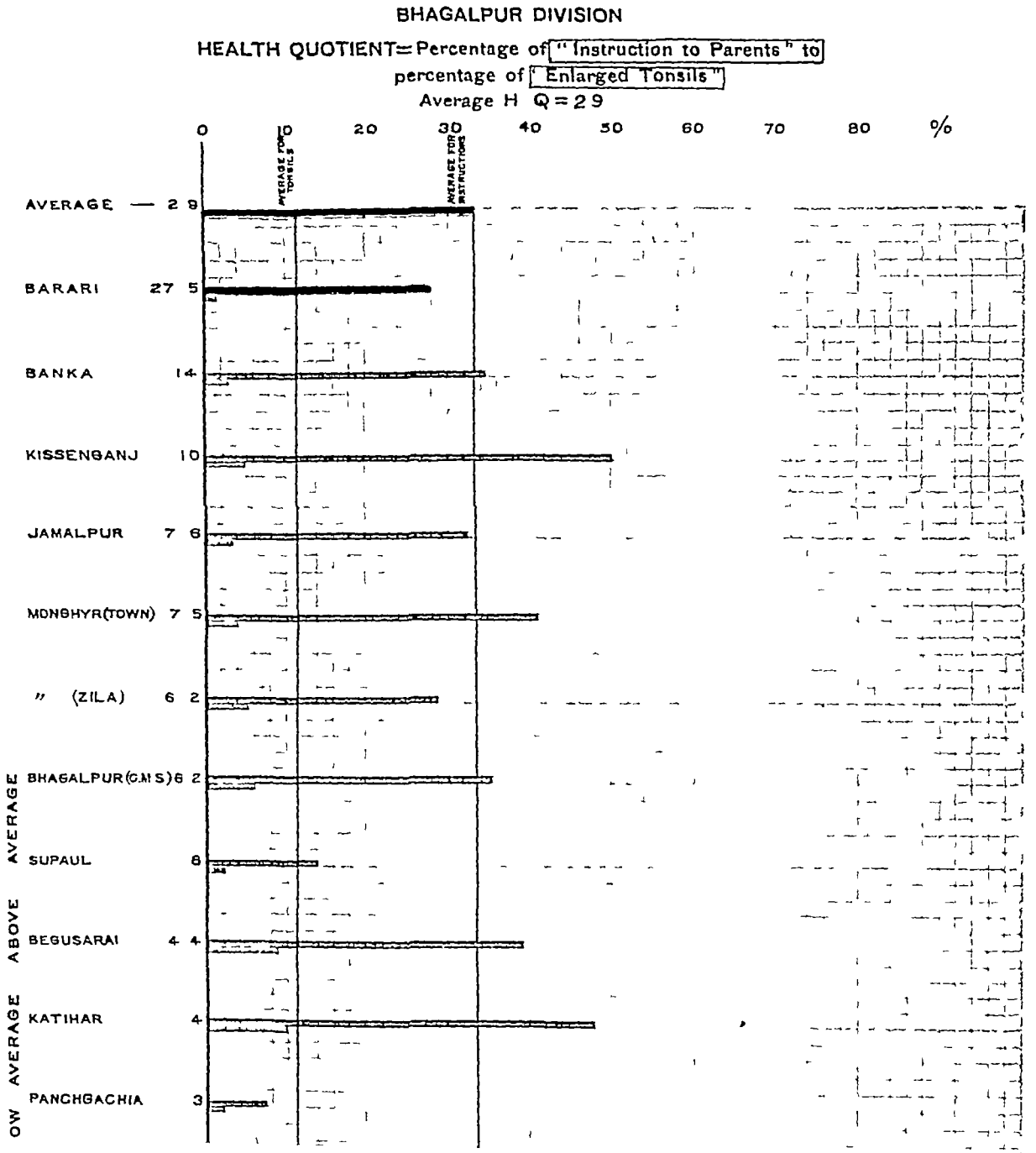
Conditions accompanied by a high tension pulse are rapidly coming into greater prominence, and are more frequently brought to the notice of the practitioner This increased prominence is, in my opinion, due to both an absolute increase in the frequency of the condition, as well as greater frequency of recognition due to improved methods of observation The more general use of the sphygmomanometer has produced a more frequent recognition of the high tension pulse, but *pari passu* with the increasing strain of modern professional and business life, there is a simultaneous increase in physical strain, and this is particularly shown in the cardiovascular system by high tension pulse As an example of a not infrequent condition I will cite the case of one of our great financiers who on the eve of a desperate attempt to corner the market, applied for $1,000,000 insurance to cover some loans At the medical examination, a high arterial tension and accentuated second sound were the cause of a rejection This man wisely abandoned immediately his financial operations, and went to Europe for a complete rest for six months, and was offered on his return to America all the insurance he wished The vast majority of cases never receive the warning until serious organic changes produce symptoms, and then rest and proper mode of life can not always effect a return to normal, and recourse must be had to medicinal means of averting a dangerously high tension, with an apoplexy or acute dilatation as a termination It is here that a vasodilator must be employed

INCREASE IN CARDIOVASCULAR DISEASE

The three great cardiovascular diseases Apoplexy, cardiac hypertrophy and dilatation, and chronic interstitial nephritis, which play so large a part in general mortality, are on the increase, and they are all accompanied by high arterial tension, and this high tension in a majority of the cases antedates the disease, and undoubtedly is an etiologic factor, so that high arterial tension when found without discoverable organic disease should be treated as a serious condition, and should also be recognized and corrected when it exists in connection with organic disease of heart, blood vessels or kidneys

In heart and kidney cases, the mere reduction of an abnormally high tension will often produce the most striking and satisfactory results, that is, if the tension can be lowered, the dyspnea, sleeplessness, anxiety and cardiac pains are often greatly relieved or removed The headache of kidney disease, often one of the most distressing symptoms, is alleviated, and in some cases the amount of albumin markedly reduced There can be no doubt that a reduction of high tension in chronic heart or kidney cases is attended with greater relief and general improvement than follows any other single measure

A word of warning, however, is timely here This reduction, especially where there are severe renal changes, should not be accomplished too rapidly, nor be carried too far It must be remembered that probably in certain sclerotic kidney cases the high pulse tension is a physiologic compensation on the part of the arterial system to offset the inability of the kidney to function except under pressure, and where the compensatory action is inhibited by arterial dilatation, the kidney is unable under lower tension to function, and the water may fill pleural or pericardial sacs or bronchial tubes and the retained waste products may induce coma, so that



is over 10¼ lbs From the 3rd month onwards the rise is more gradual, at the end of the 24th

United States, and are being at present out in England under the Medical

In summary then the symptoms are those of an enlarged prostate and a vesical calculus. It differs from an enlarged prostate in the crepitus obtained per rectum and by sounding, and from vesical calculus by the fact that the pain is constantly referred to one point and that the sensation of a moving stone is not experienced.

The sequelæ and complications of the disease are not numerous. The calculi may perforate into the bladder, rectum or perineum. The constant irritation with lessened tissue resistance may be the cause of prostatic abscess. Lastly, but most important, the consequences of a neglected hypertrophied prostate or vesical calculus may follow, namely, pyelitis, pyonephrosis, sepsis and death.

TREATMENT

The treatment of the condition is essentially a surgical one, the removal of the stones by open operation. Any of the accepted incisions for perineal prostatectomy will do. In my case reported below, operation was refused and the mechanical measures employed were so successful that they will be given in detail. The prostate should be massaged daily with gentle touch for about two minutes. Gradually the pressure can be increased, but if fever should follow massage should be omitted for a day or two. Massage mechanically presses into the urethra the calculi and from there they are voided with the urine or, becoming impacted, can be extracted with urethral forceps.

This method is not without danger, for if Finger's theory as to the shape of the bladder opening into the urethra when that viscus is distended be accepted, a calculus may readily slip back into the bladder. It would then form the nucleus for a vesical calculus, a not very pleasant consequence. At the same time suppositories of ichthyol can be given to allay the acute inflammation. The cystitis is to be treated by any of the approved methods, i. e., bladder irrigations and urinary disinfectants.

The following case occurred in the service of Dr. Hermann Klotz at the German Hospital and I am indebted to him for the permission to report it.

CASE REPORTS

CASE 1. *History.*—J. B., male, aged 23, plumber, was admitted July 10, 1907. Past and family history negative. Had gonorrhea four years ago and was cured in three weeks, denied syphilis and chancroidal infection. Four months before admission he had a second attack of gonorrhea that was treated for six weeks with astringents and protargol, at which time the discharge ceased. The urine was still full of pus and after ten days' frequency of urination returned, but no urethral discharge. Frequency of urination persisted together with increasing difficulty in starting the stream and dribbling at the end of the act. He had a sense of fulness in the perineum and severe pain on defecation, the pain radiating to the glans penis.

Examination.—His condition on admission was as follows. Micturition every fifteen minutes and very painful. Urine full of pus and foul smelling. He had passed no calculi. Aside from the genital tract the patient was normal. Penis was normal, no scars nor discharge. Mucous membrane as seen through endoscope, was normal. A No. 30 Fr. sound passed easily. Just before passing into the bladder crepitus was felt at the end of the sound. Cystoscopy showed the bladder to be acutely inflamed. There were 150 c.c. of residual urine. A Roentgen ray picture was not taken. On rectal examination the finger immediately after passing the sphincter, was arrested by a rather firm, round, smooth prominence of about the size of a small lemon, which protruded from the anterior wall, apparently the enlarged and hardened prostate gland. On stronger pressure with the finger one got the impression of a rather hard but thin shell giving way and breaking into fragments, followed by the distinct sensation of crepitation. This sensation was not, however, that of the rubbing of hard stones against each other, but rather that of fragments of layers of a soft slate or shale. Altogether the gland seemed almost entirely composed of or interspersed with numerous layers of soft stone or with incrustations. Laboratory reports on the blood were negative. The urine was that of a severe cystitis. While in the hospital he had a temperature ranging from 100 to 102.6 F.

Treatment.—His treatment and the further course of the case were as follows. He was given hexamethylenamin and bladder irrigations of silver nitrate up to a strength of 1 in 1,000, and his prostate was massaged. After the first massage he passed two fragments of calculi and the next day two more. The fourth passed was the largest of the series and weighed 3 grains. After this he had a temperature of 102.6 F. and massage was omitted for a day or two. He continued to pass from one to three stones a day. At the end of fourteen days he could hold his urine four hours, had slight pain on voiding and none on defecation. Rectal examination showed the prostate to have numerous areas of softening. He continued to pass calculi for two weeks, and with their passage his symptoms gradually improved. At the end of a month he was discharged with the following status: Urine still cloudy, with some shreds. Prostate barely palpable per rectum, no crepitus. *Sound on passing into the urethra gave no crepitus.* He was able to hold his urine for eight hours and had no pain either on defecation or micturition. There was no residual urine.

Pathologic Report.—The calculi were examined by Dr. O. Hensel of the German Hospital Laboratory, and his report was as follows: "The calculus submitted for examination consisted chiefly of carbonate of lime with some phosphate of lime and a slight amount of organic matter." In all fifty-two calculi were passed, ranging in size from a pinhead to a big grain of corn. All were not saved, but from those preserved their estimated total weight was about 100 grains.

CASE 2.—From the practice of Dr. H. Klotz.

History.—A. L., aged 26, was under my observation and treatment during the winter of 1892-1893 and during the spring of 1893 for frequent emissions, which always left the patient in a rather weak and nervous condition. On account of an advanced endarteritis and incidental heart affection he was not able to follow treatment very regularly, but altogether local treatment by sounds, the psychrophore, etc., did not seem to have much effect, bromids gave temporary relief. On July 22 the patient particularly complained of having had several seminal emissions in quick succession, followed by severe burning in the urethra, frequent and urgent desire to urinate and occasional interruptions of the act of micturition.

Examination.—On examination through the rectum the prostate appeared moderately enlarged and prominent, but as a whole rather soft except in one spot where a hard, irregular nodule or tubercle could be distinctly made out. The examination was very painful, the pressure on the gland was not followed by the discharge of any secretion, the urine was but slightly cloudy, and no symptoms of kidney affection were present. On July 27 urination was still very painful, with frequent desire and occasional interruptions. On August 5 the patient reported that the previous night, after several days with rather moderate symptoms, an exceedingly severe, sudden pain was felt in the region of the prostate and through out the urethra, after micturition a hard body was discovered in the chamber, this the patient had brought with him. It proved to be a concrement of about the shape and size of the stone of the date and of a light brown color, it measured 1.5 cm. in length and 0.5 cm. in the smaller diameter, tapering into rather sharp points at both ends. Broken in two pieces the concrement showed a thin crust of a light brown color surrounding a somewhat softer substance of a light gray and partly distinctly crystalline structure. August 10 examination of the patient through the rectum was not painful, the prostate was much reduced in size and not painful on pressure, the hard nodule had entirely disappeared and this correspond

many cases the possibility of arresting such pathological processes which, if allowed to continue, may affect the health not only during the early years, but even throughout the life of the individual It is necessary first to be familiar with what is normal, if it is desired to detect abnormal conditions in their early stages , and the weight of the infant is the most ready means we have of estimating whether the baby is thriving or not

In other countries it has been shown that the weight curve for the first year can be made up from the weight charts of a large number of healthy babies It has been found useful to have such an average normal weight curve printed on the chart on which the weight of any individual baby is to be recorded, so that it can be seen at a glance, at the time of weighing if the baby under observation is developing normally Repeated observations in Britain and America have led to the conclusion that, although the weight of any individual child does not exactly follow the curve, yet it is remarkable how nearly the weight of a large number of infants approximate to it

When it was decided to start regular weighing of healthy Indian infants at the "Baby Welcomes" established in Delhi city, it was found that there were no published records to indicate what should be the average weight curve of the normal Indian infant during the first year In order to facilitate the recording of weights during the first year, the Health Visitors at the Delhi "Baby Welcomes" have used a simple chart, on which the baby's weight can easily be marked each week, and mothers are encouraged to bring their children regularly for weighing

In this way 842 observations have been obtained, and the line here shown indicates the average weight curve during 1921 There were not sufficient cases recorded to permit of separate tabulation of each sex , in other countries it is found that girls, throughout the year, weigh on an average ½ lb less than boys (Graph 1) The weight at birth could not be obtained at the "Baby Welcomes," as the mothers do not usually bring the infants for weighing until the second week For the first week, therefore, I have used the fact, which I have previously recorded, (1) that the records of the weight at birth of 1,849 normal Indian infants show that the Indian infant has reached at the time of birth the average weight of 6½ lbs

It is obvious that many more observations are required before an average weight curve, which will be of real value at Delhi for purposes of comparison, is obtained I think, however, the observations recorded are sufficient to indicate that there is a slight loss of weight in the second week, but that this is rapidly made up and followed by a steady rise during the first 3 months of life, which is the period of most rapid increase At the end of the 12th week the average weight is over 10¼ lbs From the 3rd month onwards the rise is more gradual, at the end of the 24th week the average weight being 12½ lbs The average weekly gain during the first 6 months is about 4 ounces From the 6th to the 12th month the curve, as indicated on this chart (Graph 1) is more theoretical, as there are fewer observations recorded at these ages During this time the rise is seen to be more gradual, and at the end of about the first year the child weighs about 2½ times as much as at birth As regards the class of infants weighed, these were the children of Hindu and Mahomedan women of the poorer classes living in Delhi The babies were full-term and were all breast fed During the year (1921) during which the observations were made, there were no abnormal conditions of temperature or epidemics of disease, which might adversely effect the health of mother or child At first it was found that mothers were unwilling to have their children weighed, as it was considered unlucky, but this idea was soon overcome by explaining the object of the weighing, "to see how strong the baby was," and it is remarkable how regularly a large number of women brought their children for observation The weight in each case was recorded to the nearest quarter of a pound The weighing was done carefully, the baby being first undressed

As a rule, a child who gained regularly in weight was found to be in good health, and it was noted that where a child did not gain steadily something was wrong for instance, perhaps the mother was not feeding the baby regularly, or she may not have had sufficient nourishment for it

The object of this note is to bring before those who are concerned with Infant Welfare in India, the desirability of recording the weights of the infants under their observation in such a way that accurate records for different parts of the country may easily be selected At present, though it is the custom in many welfare centres to weigh babies, the relation between age and weight is not usually indicated in any way that permits of ready reference and the complying of an average normal weight curve Careful records over a number of years would also be of considerable value as indicating the possible influence of various factors, such as abnormal temperature conditions, and of epidemic disease, on infant health and mortality

The simplest way of recording babies' weights and ages is probably by using a chart something on the lines of that used at Delhi The cost of printing is, I am told, small, and weights are easily marked on it

Recent research in other countries on the pathology of infancy has shown that weight alone should not be taken as an indication of well-being, but that the height and weight of children, if considered in relation to each other, constitute the best index of development Numerous observations on these lines have been made in the United States, and are being at present carried out in England under the Medical Research

arm were transmitted through the cuff and heavy connecting tubing to an expansile pouch of rubber, inclosed tightly in a glass funnel, which is connected with a tambour The kymograph used takes a blackened record about seven feet in length so that a whole day's record may be traced on one band

I regret very much that no time recording device was available for the work Nevertheless, I am sure after several months' experience with this particular kymograph that its motion is practically regular—sufficiently constant for the work of this paper The cases observed were taken at random, except that a few were selected because of heart lesions The patients were observed lying in bed, sometimes bolstered up with pillows in any attitude comfortable for them In reporting the observations on the cases I will give a short history of each case and then describe the findings

CASE 1 —*History*—Male, aged 23 Grandmother a paralytic Onset of epilepsy at 14 without assigned cause Physical examination negative Two tracings were obtained in this case There was a very slight acceleration preceding the attack After the seizure the pulse was regular and still slightly accelerated In the second of these tracings the seizure began some fifteen pulse waves before the first muscular contraction is recorded In the first the period was some two or three pulse waves shorter

CASE 2 —*History*—Male, aged 33, a printer by trade Had been deaf since eight years of age Onset of epilepsy at 25 Assigned cause, careless habits of eating and sleeping Denied the use of alcohol, used tobacco moderately Palate and chest asymmetrical, heart negative, dermographia HCl present but once out of several examinations The seizure (grand mal) observed began without a cry, there was a drawing up of the face muscles and the head turned to the right Knees were slightly flexed Pupils were dilated at the end of the seizure In the tracing from this case, an accidental movement interrupted the curve before the attack, but about eight occurred before the beginning of the seizure. After the onset there was apparently a momentary slowing, but this disappeared and the waves were still closer together as they approached the first muscular contraction The rate after the seizure was about the same as before

CASE 3 —No 1871 Male aged 25 Onset of epilepsy at 9 following scarlet fever and Bright's disease Heredity negative Thorax negative, dermographia present, some asymmetry of facial markings and atrophy about the shoulder girdle, especially in the supraspinatus and infraspinatus muscles Mental condition fairly good

The record of a grand mal attack is shown in the accompanying illustration The tetanic convulsion was of considerable duration, the eyes were turned up and to the right and the pupils were dilated The clonus was short The tracing shows slight acceleration after the muscular contraction is recorded, and during and after the convulsion the heart rate is still more increased

CASE 4 —No 2107 Male aged 26 Heredity poor Pneumonia at 1 year of age. Onset at 1 year Patient has had muscular rheumatism and has a presystolic murmur Pulse regular

Two records were taken—one of a grand mal attack, and one of a petit mal In the first there appeared to be acceleration of the pulse rate before the attack, and in the second there was no change

CASE 5 —No 1580 Male, aged 13 Onset at 14 months Physical examination negative In several tracings of petit mal attacks no change of rate preceded the seizure

CASE 6 —No 1779 Male, aged 31 Heredity poor Onset at 19 Mitral regurgitation Records were taken of four seizures, petit mal or mild grand mal in character In one, there was no change in rate, but in others there was acceleration just before or just after the onset. The indicated onset preceded the first muscular contraction

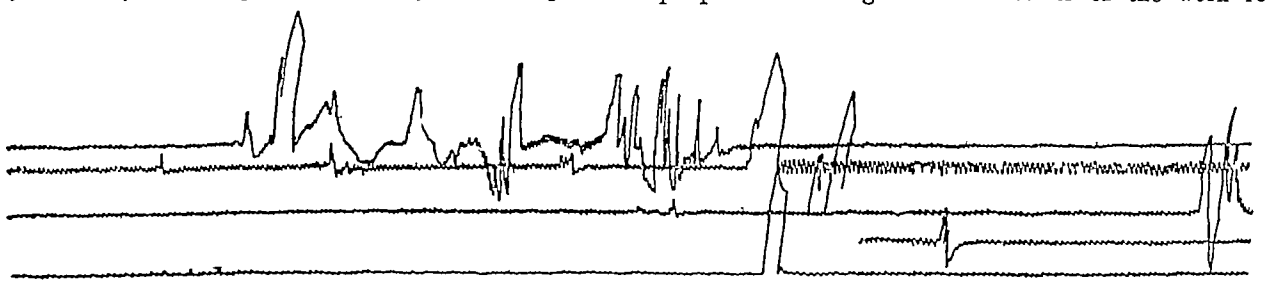
CASE 7 —No 846 Male, aged 22 Mother suffered from severe headaches Onset at 10, supposed cause a fall five years previously In the tracings of two grand mal attacks the first showed slight acceleration before the convulsion begins, and the second showed no change

CASE 8 —No 939 Male, aged 18 Onset at 8 years of age Heredity poor Worm fits at 2 years I have only the record of a petit mal attack There was only a slight acceleration

CASE 9 —No 1004 A Jacksonian case, with almost constant clonic movements of the affected side The tracings showed intervals in the convulsion during which the pulse was regular up to the point where resumption of convulsion hid the pulse wave in the tracing

CASE 10 —No 1524 Marked mitral insufficiency Numerous mild attacks were traced in which the pulse was regular up to the moment of convulsion Two other tracings showed no change in rate before the convulsion

These cases, chosen at random or for a short heart lesion, may be considered to represent the average of epileptics Looking over the results of the work reported it will be seen that the condition common to all but one was an acceleration of the pulse preceding the seizure and lasting through the onset stage to the moment of the first recorded convulsion This acceleration was never great The absence of a time marker prevented exact statements, but the increases seemed to be in the several cases, from eight to nine, or from twelve to fifteen or seventeen beats In all the cases the pulse was entirely regular



Sphygmographic tracing during seizure showing no cessation of heart action

For this group of cases one can conclude definitely

First—Cardiac arrest does not occur

Second—Except for slight acceleration, and in one case slight slowing, the heart does not take part in the convulsion

While I am certain as to the accuracy of the above stated conclusions, the question as to the extent to which they apply to all epilepsies is a different matter It seems to me, however, that it is doubtful if cardiac arrest will be found in cortical epilepsies uncomplicated by heart lesions

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Handle a Few Tools Well.—Don't try to have too many remedies or combinations of remedies it is better to have a few tools which one knows how to handle well than to have a vast number with which one is poorly acquainted—Dr L Duncan Bulkley in *Therapeutic Gazette*

condition with the Plantaris and the Gastrocnemius and Soleus

In pronation the difference is not so marked as to the bulk of the muscle, if we take either the Pronator Quadratus or Pronator Radii Teres as the chief pronators But in this action of pronation the weight of the limb itself is a great pronator, and the check action of the weight of the limb itself in causing pronation will fall on the supinators , so that we have, whether in pronation or supination a sudden muscular action in which the Supinator Longus must participate

Taking the analogy of the other disabilities above mentioned—this muscle will give way at its weakest part and the weakest part of this muscle is at its origin

In the text-books of anatomy we find that the origin of the Supinator Longus or Brachio Radialis is given as the upper two-thirds of the external Supra Condyloid Ridge of the Humerus and from the front of the external intermuscular septum

The external Supra Condyloid Ridge is not an extensive surface for the origin of the muscle and therefore it is here a thin flat band of muscular fibres attached to the periosteum and the fascia of the external intermuscular septum If this is a correct view to take of Tennis Elbow, we are now in a position to understand the cause of the pain, its varieties in distribution, and its persistency in many cases

Taking the natural sequence of events when any tissue is ruptured in the body, we have the usual exudation according to the severity of the injury and the resulting tendency to form fibrous tissue

This physiological or pathological process will affect the periosteum and the fascia of the external intermuscular septum Moreover, at the origin of the supinator longus we have the Musculo Spiral Nerve piercing the external intermuscular septum to come to the front of the arm, and passing down between the Supinator Longus and Bracialis Anticus muscles

We may have therefore the pain

(1) From an affection of the fascia between the muscles—fibrositis

(2) From an affection of the periosteum—periostitis

(3) From an affection of the nerve—neuritis

From the description of the pain usually given, that of the "Riders Muscle" and the "Tennis Elbow" are more or less the same We have both the Supinator Longus and the Adductor Longus giving way at their attachments to the bone and therefore affecting the periosteum, and one would infer that the drag on the periosteum is the dominant factor in causing the pain in both these conditions

In Tennis Elbow we have, in addition, the affection of the intermuscular septum which being attached to the whole length of the Supra Condyloid Ridge and the external condyle of the Humerus, the periosteum of the whole ridge and external condyle may be affected

Owing also to the numerous muscles of the forearm that have some part of their origin from the external condyle and the fascia attached thereto, we can understand the disability that arises from trying to use the forearm in any movement

But in many cases of Tennis Elbow the pain is localised to the external condyle and one can hardly apply the above explanation to such cases

But it is very probable that in those forms of Tennis Elbow where the pain is localised to the external condyle of the humerus, the disability is due more to the rupture of the fascial insertions of the many muscles that have their origin from this site.

With so many muscles taking origin from such a small surface, it must follow that this origin must be very small in extent, and consequently the weakest part of the muscle and therefore most likely to give way

Here the factor is not so much one weak muscle acting in association with other stronger muscles, but where a muscle has two heads of origin and one is weak as compared to the other

Moreover, the affection of the ensheathing fascia at any one spot is transmitted over a wide area, compare the disability of the Tensor Fasciæ Femoris

Treatment—Having discussed the probabilities of the root cause of Tennis Elbow and the resulting pain, we may pass on to the treatment of the disability

In this disability as in many of the disabilities caused from injuries, we have something to learn from the so-called "bone setters"

We will take, for instance, the Tennis Leg, in which the Plantaris is partially or totally ruptured Previously the medical profession prescribed rest and generally plenty of it , the so-called bone setter put some strapping over the painful spot and told the patient to "carry on" Which is the correct treatment ? For one is diametrically opposed to the other

Let us go back to the simple pathology of the injury At the site of rupture there will be the usual exudation followed by migration of leucocytes and the resulting fibrous tissue The latter tending to contract and join the two ends of the ruptured part together

With rest we shall have a muscle restored almost to its usual length, with probably in addition some adhesions to the surrounding fascia and muscles On resumption of work after a period of rest, the contraction of the associated muscles will pull on the adhesions and these being over the site of injury will cause the patient naturally some pain, and therefore retard the patient's use of the limb and therefore retard his return to active exercise But in addition we have also this condition produced, *viz* , a muscle of almost the same length as it was previous to

fection contaminates the hand I doubt, too, if gloves are sterile, or can be made so by boiling for a few minutes in water, certainly many spores require a long time to destroy

In my work aside from operations I do the same thing I never examine a puerperal or infected uterus with the bare finger, but always with gloves I never make a vaginal, rectal or any other kind of examination, never dress a case where there may be an abscess or fistula, or a case that requires drainage, without using rubber gloves

By this means I think I can keep my hands clean by absolute abstinence With absolute abstinence and the rapid work that the ungloved hand enables one to do, it seems to me that we would increase our success and reduce our death rate

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TUBERCULOSIS AND THE MEDICAL SCHOOLS

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The admission of cases of pulmonary tuberculosis to the general hospitals, is one of the most serious questions with which such institutions have to deal The attitude of those in charge has always been that a general hospital is not the proper place for the care of such cases, and this attitude is held just and reasonable by the medical profession There is one phase of the question, however, which has received very scanty consideration, but which demands that certain exceptions be made to the general rule These exceptions have to deal with those hospitals connected with medical schools, which occupy a wider field than the other general hospitals These hospitals must give the students in their associated schools as complete a practical familiarity as possible with the principal diseases which they will meet in after life, so that they will go out to practice their profession thoroughly grounded in the prevention, diagnosis and treatment of these diseases

As for affording relief to the patient, and furnishing material for research work, it is readily granted that in pulmonary tuberculosis these ends can be met more adequately through special institutions for the care of these cases It is quite as much a matter of fact, that for purposes of instruction, no outside institutions can fully take the place of the hospital in whose wards the medical student does his daily work

It is the duty of these hospitals to afford proper facilities for the instruction of the students in the practical diagnosis of incipient tuberculosis It is a duty that is being very generally neglected Cases of typhoid, pneumonia, malaria, and all other diseases met with in the practice of medicine, are urged to come, and gladly welcomed into their wards Those persons having tuberculosis, the malady to which mankind is most subject, and which presents to the general practitioner the most perplexing and discouraging problem with which he has to deal, are received grudgingly, and then only when humanitarian considerations demand their reception and no cogent arguments can be advanced in favor of their going elsewhere

Aside from those unsuspected cases presenting in patients admitted for the treatment of some other ailment, the material at the command of the instructors for their bedside clinics is comprised so far as tuberculosis is concerned, of the comparatively few patients in more or less advanced stages of the disease, who are admitted under the conditions mentioned above The material thus afforded is used after a fashion, and only after a fashion Usually there are no special facilities for giving tuberculous patients the treatment they require From being placed in the general wards, and usually being so far advanced as to afford little hope of real benefit from the treatment there, they are looked on as detrimental to the hospital and uninteresting medically Aside from the clinics in the dispensary these cases furnish, in a large majority of instances, the sole material on which those in charge must rely for the practical instruction of the students

When the average graduate receives his license to practice his knowledge of tuberculosis is based almost entirely on the unmistakable signs and symptoms of its later stages He knows that the presence of the tubercle bacillus confirms the diagnosis, but he does not know that the reverse of this statement is not equally true He associates tuberculosis far too closely with the picture of emaciation, prostration and extreme dyspnea which he has seen His knowledge is drawn entirely from the study of its later stages, and though he has gathered from his instructors and his text books some inkling of the varying signs and symptoms of its onset, he has not the idea of their value and significance that is obtained only by practical observation and examination

Any school that taught its students to recognize appendicitis only after rupture had occurred, or a heart lesion only through the symptoms of failing compensation, would be held up to scorn on all sides Can any one question the relative importance of tuberculosis to these, or any other diseases? And yet how many such hospitals to-day have any facilities for, or make any effort to obtain incipient cases of tuberculosis in order to give their students ample instruction in the diagnosis and treatment of its early stages, Special facilities for the care of these cases means an extra expenditure, but is it not imperative that they be provided? Frequently such patients do not feel sick enough to realize the need of entering a hospital, but should they not be urged to do so and special inducements offered, if necessary? Does extra cost count more than the graduation of men imperfectly instructed on so essential a point?

Tuberculosis is one of the most difficult of all diseases to diagnose in its incipiency It presents varying symptoms of onset which are by no means closely associated with relative variations in the virulence of the disease The diagnosis can not often be made at the first examination One must study closely the past and present history of the patient, his environment, his symptoms and the physical signs that are present, watching him carefully, from week to week, and frequently be forced in the end to rely on tuberculin in order to confirm what otherwise he could only suspect

As with other diseases, every effort should be made to recognize tuberculosis in its onset Yet how many students on graduation know it in this stage? Ask the recent graduates of any of our medical schools how many cases of incipient tuberculosis they have had the opportunity of studying By far the greater number will reply, "None at all"

Dr Barnes, in a striking paper on "The Mistakes in Diagnosis of Pulmonary Tuberculosis" gave in tabulated form the errors in diagnosis with which the patients coming under his charge at the Rhode Island Sanatorium had had to contend, and the loss of time in

The coolies affected are nearly all between 20 and 40 years of age, and of excellent physique, but are dirty in habits, person and clothing Vermin (Pediculus capitis and P vestimenti) universal I saw some bugs resembling Cimex rotundatus in one of the Munda sections

Water supply—There are three wells, fairly deep, 18 to 25 feet Two are not exposed to contamination from surroundings

The epidemic—The epidemic was confined entirely to Ranchi coolies, about 350 in number, at the Base Camp Burmans and others have not been affected

It commenced probably about the middle of February last A death is recorded on 13th February, 1921, swelling of feet and suspected scurvy Since then 51 cases are reported and 8 deaths—a case mortality of about 16 per cent

The prominent and most constant symptoms are —

Swelling of feet, congestion of fauces, palpitation, breathlessness on exertion, hemaralopia, digestive disturbances, diarrhœa or constipation, or blood and mucus in stools, swollen, spongy or bleeding gums, heaviness in legs, scanty high-coloured urine, highly acid, albumen rare Distressing dyspnœa, dilatation of heart Stomach enlarged—two cases had duodenal tenderness, two cases had marked tenderness in muscles of calf and shoulders

Death—The onset of death is sudden and rapid In nearly all it took place within two hours from onset of cardiac dyspnœa

A constant and fatal symptom was pain in the loins over one or both kidneys

Prominent post-mortem conditions

Serous effusion in pleura, pericardium or peritoneum Dilated heart, kidneys enlarged and congested, in one case hæmorrhage into the hylum Lungs engorged, stomach, large and small intestines showed a few points of inflammation Bladder nearly always empty and contracted

Death in diastole.

Every one of the cases affected were in the Base Camp for 5 or 6 months, and their only food for about 3 months past has been Rangoon rice, arhar dal, salt and a small portion of fresh vegetables, mostly brinjal, once in 20 days

The men pay for all purchases, so there is a suspicion that in order to save money, some have confined themselves to rice alone supplemented by jungle leaves and roots, resembling edible leaves and roots found in their native province

Occasionally a pig comes in their way when they gorge to the extent of getting indigestion

SUMMARY

Against epidemic dropsy—No erythema or mottling—no emaciation—no fever, no burning or pricking or itching preceding œdema—marked anæmia uncommon

Against beri-beri—No insidious beginning with lassitude, no pain in stomach or duodenum—absence of paresis, ability to stand with eyes closed, no paralysis, hyperasthesia or anæsthesia"

I do not think Dr Hussey had sufficient time at his disposal (3 days) to closely watch the course and progress of the disease, and no doubt a lot of his information must have been received from the Sub-Assistant Surgeon of North Andaman

I therefore propose to describe now at greater length and detail the conditions as represented by the patients

In all I had 14 cases sent to me, but as they were all practically identical, the description of one will be sufficient The first batch of patients brought to me was at the same time that the report about the epidemic was received at Port Blair

Case No 1 *13th March*, 1921—Has been ill for 18 days, chief complaint œdema of feet and legs, and in consequence a feeling of weight Tongue furred, bowels said to move once a day regularly, slight puffiness of the face. Dentures covered with tartar which has affected the gums and made them swollen and congested Heart regular, no increase of dulness in precordial area Spleen and liver normal

Complete absence of pain anywhere Urine scanty (1 lb in 24 hours) sp g 1008—acid Slight indication of knee-jerk in the left knee, lost in the right. No tenderness of calf muscles, cutaneous sensation normal

No malarial parasites in blood

The differential count was

Large mononuclears	4 8	per cent
Polymorphonuclears	72 1	per cent
Eosinophiles	13 1	per cent
Lymphocytes	15	per cent
Hæmoglobin	75	per cent
Weight	115	lbs
Calves	10	inches each

The treatment prescribed was

℞ Liq strychnia
Tinct digitalis aa m v
Do ferri perch
Aquam ad 1 oz t d.s

Diet
Extra vegetables 8 ozs
Milk 2 lbs
Butter-milk 1 lb

Mist alba was given (2 ozs every second morning)

14th March, 1921—Total quantity of urine in 24 hours 17 ozs, sp g 1012 Alkaline.

18th March, 1921—Puffiness of face considerably reduced—œdema of feet gone, of shins just a mere trace Skin of feet a bit rough Blue pill 7 gr ordered at bed time, to be followed by a saline draught early next morning

Full diet—Extra vegetables, 1lb butter-milk, this latter to be taken at bed time

19th March, 1921—At 2 AM and 8 AM patient had fits, a mild epileptic seizure preceded

average daily expense of each patient amounts only to 11½ centavos (2¾ cents) a day Patients who can work are obliged to do so, and many things, such as mattresses, pillows, clothing, etc, are made in the institution Medicines are dispensed in empty beer or wine bottles, with a label fastened to the neck, on which the directions are written The day I visited the hospital five patients had died, and the sixth one must have followed the others in less than an hour, as he was then dying from cancer of the stomach The worst looking room I have ever seen, in which operations are performed, I was shown here by the sister in charge When I intimated that I would like to see the operating room, I noticed that she became uneasy, but when she reached it she flung open the large old door from the arched gallery and revealed the cellar like large room with no windows or openings for the admission of light with the exception of the doorway All this dark room contained was a naked marble table in the middle Through an open door communicating with another similar dark room I saw the flickering light of a number of candles arranged around a corpse resting on a rude table, plentifully supplied with crosses The corpse was one of the harvest of death for that day, as before we left that part of the building an Indian woman was screeching and swinging her arms, looking for her dead husband, who was then laid out in a room adjoining the operating room This hospital is not entirely devoted to medical and surgical cases requiring hospital care In one part I found insane people, and in many of the courts were lingering men and women whose only disease was the inevitable one which awaits us all should we live long enough —old age I found in one of the private wards, a dark, close room, probably a former cell, a German engineer who had occupied this chamber for the last five months Thirteen months ago, when employed in a mine in the interior of the country, ten days' travel on muleback from Arequipa, he had fractured the left femur at about its middle third Under the most primitive treatment the fracture appeared to heal in the usual way, and then, when the healing process was arrested, he was obliged to make the journey to Arequipa on muleback. On the whole long, painful journey he had nothing to eat except one of the fruits of the country, the cherimoyer His sufferings were so great that he attempted to end them by committing suicide, but his revolver missed fire, and he finally reached the hospital in an exhausted condition, from which he has not yet fully recovered, as he is emaciated and anemic The excellent Buck extension dressing is the work of his own mechanical genius, and I hope will succeed in effecting a satisfactory healing of the fracture even at this late date

The hospital is too poor to issue a printed annual report, but in one of the daily papers I found the last monthly report During the month there were 754 new admissions, and at the end 341 patients remained in the hospital There were 341 discharged cured, and 71 deaths occurred The mortality list included the following Pulmonary tuberculosis, 27, dysentery, 7, pneumonia, 5, old age, 4, typhoid fever, 3, Bright's disease, 2, epilepsy, 2 delivery, 1, meningocephalitis, 1, gangrene, 1, organic heart disease, 1, cerebral hemorrhage, 1, angina, 1 cancer of stomach, 2, cirrhosis of liver, 1, phlegmon of neck, 1, cancer of uterus, 1, pleurisy, 1, arteriosclerosis, 1, and typhoid pneumonia, 1 From the mortality statistics it will be seen that the causes of death in this part of Peru are about the same as in any city of the United States

It is a source of satisfaction to know that there is a project on foot to build a new municipal hospital for Arequipa, which, when completed will fill a pressing need, as the one which I have described has been for a long time, notwithstanding all its faults, a blessing to the community, but has become entirely superannuated.

MEDICAL CALLAO

Callao has one large general hospital the Guadalupe, built forty years ago, which can care for 300 patients It is in charge of five Sisters of Charity of St. Vincent de Paul It is built in the usual one story pavilion style, with intervening courts and connecting galleries It is constructed of adobe and cement, with wooden floors Two large wards are set aside for the exclusive use of sailors, and it is in these wards that the linguistic accomplishments of attendants and physicians are sorely tried Here we see the fair Scandinavians and North Germans side by side with negroes from various tropical countries, South American Indians swarthy Italians, Spaniards and East Indians, ruddy Englishmen and heavily bearded Russians The hospital has an excellent location and some recent improvements like the new operating room and the fairly equipped laboratory show an awakening to the necessity of modern methods, a new ray of light in the medical and surgical practice of this institution The two internes who are now on duty are members of the graduating class of the Lima Medical School, Mr José S Madalengvitia and Mr Lizardo C Villavicencenco Dr William M. Wightman, P H and M H Service, showed me through the hospital, and for this as well as other courtesies, has placed me under many obligations In this hospital I had an opportunity to examine the three cases of Verruga peruana, a description of which has already appeared on page 273

LIMA THE OLDEST MEDICAL CENTER ON THE AMERICAN CONTINENT

It is not generally known that Lima is the oldest medical center on the American continent, but nevertheless this is the case The Lima University (Universitad Mayor de San Marcos) was the first institution of its kind in America The origin of this university is to be found in the royal decree issued May 12, 1551, wherein the King of Spain, Don Carlos I, granted 350 gold dollars to the priors of the Dominican order for the purpose of the establishment in Lima of an "Estudio General," conferring on it the same privileges and exemptions as those enjoyed by the celebrated University of Salamanca, it being required that its lecture halls be installed in the principal Dominican monastery Later on, in 1572, at a meeting of the principal members thereof, Don Gaspar Meñeres, who bore the title in medicine as also that of Master of Arts, was selected from the secular brothers, and made rector of the institution For this reason he figures on the chronologic list as the first of the rectors of the Lima University The incipient university took its name on Dec 31, 1574, from St Mark, and this name it still bears The name was chosen by lot from the names of several saints, a very singular procedure indeed for naming an institution, and understood solely in those medieval times when religious fanaticism pervaded every detail of thought and action

From 1574 onward the University of St Mark had a life of its own, and, two years later, in 1576, was on a footing to be able better to define its views of establishing in due form the higher education to be given in the institution A plan of studies satisfactory for that period was organized, and the following classes were held Two of grammar, one of native language, three of theology, two of canonical law, and two of medicine.

The graduating exercises at this period were complicated and elaborate. The ceremony was preceded by the celebration of the Mass of the Holy Ghost, after which the exercises began by the examination of the candidate during two consecutive days If he was approved, he was solemnly led to the Chapel of the Virgin in the principal church or in the university, accompanied by the students, collegians and doctors, in order that he might there make the customary profession of faith, "pledging himself, on oath before the rector, to defend the mystery of the Immaculate Conception and to detest the execrable doctrine of tyrannicide and regicide" After this, he received the degree of doctor from the pontifical and royal authority, which was personified by the master of the school The sponsor then terminated the ceremony by decking the successful candidate with the respective insignia During the early history of the university the graduating expenses reached the fabulous sum of $10 000 which the candidate had to pay In 1743 this was reduced to $2 000, in 1870 it was fixed at $800, and at present the candidate pays $50 for the doctorate degree Attendance at the university is free, but those alone are permitted to present themselves for examination who are matriculated The present attendance in all the

"dyspnœa of aortic regurgitation" had 15 to 20 ozs of blood withdrawn

'Latterly he gave these cases an inhalation of oil eucalyptus, tinct benz co, ol menth pip, creosote, for 20 minutes or so every three hours"

Finally, further on in his letter, he says "As far as I think, it is an epidemic of scurvy and another disease combined"

Dr Hussey in the concluding remarks of his report states 'There are two points I desire to bring to notice in this epidemic (1) that the spongy gums, or swollen or bleeding gums, appear to be symptoms associated with the disease and not a separate scorbutus, (2) that the severe pain in the loins over the kidneys are a sure sign of a fatal termination of the disease"

'Knowing, as I do, certain peculiarities and characteristics of the Ranchi cooly and his environments in Base Camp, my principal form of treatment was purgation—an absolute cleansing of the colon, and the result was as the cases I have illustrated prove.

The stools of all the patients were at first very offensive and the percentage of the eosinophile corpuscles very high Apart from purgation, I tried to change the intestinal flora and convert a putrefying state of affairs into one of a fermenting character With this object in view I gave as diet, vegetables, and at night a pound of butter-milk

I am convinced that a mere course of starvation and purgation would have been as beneficial if not more so to these patients than cardiac and nervine stimulants, and therefore some of my patients were not given any such drugs As regards the knee-jerk, it was extremely difficult to properly test this in these very ignorant fellows To me there was not a single feature of the disease that pointed to beri-beri or scorbutus or even epidemic dropsy It was also specially noted that these Ranchi coolies were foul-feeders, and specially so the Mundas who were also affected in large numbers

The high percentage of the hæmoglobin is also a point to be noted and also the high percentage of the eosinophile corpuscles

None of my cases died, and out of the lot only one had been in hospital at the North Andamans, all the others were direct admissions

From his letter to me I gather that in none of Mr Majumdar's cases was the characteristic equal spacing of the beri-beri heart detected None of my cases had any sort of marked cardiac trouble. Only one case had a slow pulse, the others had a normal pulse rate None of the cases had a rise of temperature The amount of urine at first excreted was remarkably small, but it was of normal specific gravity, colour and re-action

I mention here one regrettable fact before concluding, *i e*, it is a great drawback for this place that as yet we have no facilities for making and examining cultures

TWO CASES OF TROPICAL ABSCESS OF LIVER RUPTURING INTO THE ABDOMEN

By A SARGOOD FRY,

CAPTAIN, I M S

A Right-lobe abscess

An Indian, aged twenty-eight years, had been suffering on and off for eight months from pain in the right side of his chest and abdomen and occasional bouts of fever The site and intensity of the pain varied from time to time. He sought medical advice many times during these months with little relief He tried a change of air and water for a month at his home, but got no better Towards the end of June, 1921, he came again under medical observation He gave no history of any previous illness of importance His condition at this time was noted as *poor and anæmic* His appetite was bad, his tongue was pigmented, moist and thickly coated His bowels were constipated, as a rule, with occasional diarrhœa Various fugitive signs were discovered which directed attention to the lungs and raised a suspicion of tuberculosis No tubercle bacilli were found in his sputum

On 7th August, the patient was seized with very severe abdominal pain and the next day very frequent bilious vomiting commenced On 12th August, I was asked to see the patient as a case of probable acute appendicitis complicating a pulmonary condition which had been diagnosed as bronchitis I saw the patient at 12-30 P M He looked very ill and emaciated The eyeballs were sunken in their sockets He lay on his right side with his right thigh flexed on the abdomen The temperature in the mouth was 96 4 degrees F The pulse was regular and small and its rate 120 per minute The respiration rate was 44 per minute, his breathing was interrupted by hiccoughs which had commenced a short while previously The tongue was moist and dirty and its margins pigmented There was no jaundice. The pain and the vomiting had not ceased since their onset There had been no motion of the bowels for two days

The patient was turned on to his back where he lay with the right thigh flexed The respiration was thoracic An enlarged vein coursed up the right anterior abdominal wall on to the right side of the chest The abdomen was distended, immobile and tight as a drum Percussion hyperæsthesia was present all over the abdomen When asked to place his finger on the most painful spot, he felt himself all over and finally placed his finger over the right subcostal angle Considerable peritoneal effusion was evidenced by marked shifting dulness in both flanks An ill defined swelling to the right of the epigastrium represented the lower border of the liver, this was not more painful or tender than elsewhere in the abdomen The upper limit of liver dulness was percussed out as follows In the mid-clavicular line the dulness reached the fourth

taken from her One or two other babies were said to have had tuberculous mothers, but there was no definite history obtainable

Of the 51 children, boys and girls, at the orphans home, the reaction was positive in 15 cases and negative in 36 cases There were several groups of brothers and sisters Some of these groups proved to be interesting For example, three in one family, 6, 8 and 10 years old, respectively, the youngest and oldest reacted slightly History not sure, but it is believed that the mother died of tuberculosis Of two children, 8 and 12 years old, the older reacted slightly, history not known Of two sisters, 8 and 9 years, the older reacted slightly, history not known A brother and sister, aged 12 and 15, reacted, the sister more markedly than the brother; no history Three, two boys and a girl, 7, 9 and 12 years, all reacted It is known that the mother died of tuberculosis two years ago The children were then placed in the orphanage Several groups of brothers and sisters did not react All these children were unusually healthy and well nourished

Of the twelve patients with advanced tuberculosis, eleven reacted One was cachectic, with also a probable carcinoma

The remaining 32 cases are very interesting They show that not all adults react to the test The oldest patient, a woman of 51 years, was quite negative, and the youngest, 9 years old, was also negative The reaction was positive in 16 cases negative in 16 cases One of the most typical reactions occurred in a man, 26 years old, well-nourished and perfectly healthy He had never had any serious illness No tuberculosis in his family He was injected with 1 mg of Koch's old tuberculin There was induration and considerable soreness at the site of injection but no constitutional symptoms were noted Three days later he was given 5 mg of O T There was marked pain and swelling, with tenderness at the site of injection Twenty-two hours afterward there was intense headache There followed within a few hours malaise, rapid pulse and a rise in temperature of 1 2 degrees One case, male, aged 31, did not react on two separate occasions There was no local or constitutional reaction to 5 mg O T or to 10 mg O T

A woman, aged 32, not only did not react to the skin test, but also to the ophthalmic test Tuberculosis was suspected in her case Three and later 5 milligrams O T caused no local or constitutional reaction and no change in the lung signs

Six of the positive cases were well persons Two brothers, 15 and 18 years old, were undersized, pale, with long narrow thoraxes and stooping shoulders Both parents died of tuberculosis nine and two years ago Three young men physicians, healthy with good family history, reacted strongly The sixth was a very tall thin narrow-chested boy of 19 years, family history good He was always tired could not concentrate his mind and was subject to fainting spells

Eight positive cases included suspected early tuberculosis diagnosed early tuberculosis and one healed case

I am impressed with the negative value of the test Some apparently perfectly healthy persons reacted The test is not a sign of active tuberculosis at any rate von Pirquet found that if there is only a caseated gland or a calcified nodule at an apex, that the reaction followed vaccination Cachectic cases, cases of miliary tuberculosis and lethal cases of tuberculous meningitis are said not to react to the test

The following conclusions seem justified

1 The cutaneous tuberculin reaction of von Pirquet is a perfectly harmless procedure

2 All adults do not react to the vaccination

3 It is of value in the so-called pretuberculous stage

4 No reaction precludes tuberculosis in an active form so far as we can be sure of the results of any one test

5 A positive reaction does not always mean active tuberculosis It may mean a healed lesion somewhere in the body, but it calls attention to the possibility of later tuberculosis It also draws attention to the probable tuberculous nature of the case, and a more careful examination of the patient will sometimes reveal the previously overlooked lesion

METATARSALGIA.

FERDINAND SCHMITTER, M D
First Lieutenant and Assistant Surgeon U S Army
STATIONED AT FORT EGBERT, ALASKA

In looking over the literature I can find but one operation recommended for the relief of metatarsalgia—the excision of the head of the metatarsal as advised by Morton Various palliative measures have been used with some success

Several theories have been offered to explain the etiology Whitman's explanation of lateral pressure by tight shoes on the depressed transverse arch is no doubt the correct one In the two cases reported the depression of the arch was caused by pressure of the shoe against the second toe joint, forcing the first phalanx downward against the metatarsal bone The factors which may tend to hold the first phalanx in this undesirable position are 1, Displacement of the toe upward by hallux valgus, 2, hammer toe, 3, contracted tendons, 4, jamming backward of the toe by a short shoe Hence the shoe which causes metatarsalgia is the one which squeezes laterally and at the same time presses downward on the second toe joint With the increasing use of the modern rational-shaped shoe metatarsalgia, along with hallux valgus, ought in the next generation to become an orthopedic anachronism

The two following cases illustrate my observations

CASE 1 —A heavily built woman, aged 43, complained of pain in the second right metatarsal

History —The patient had an attack of rheumatism four years ago The feet were swollen and when this swelling went down the second and third toes were left displaced at their bases

Physical Examination —There was marked hallux valgus, also a slight degree of flatfoot. The second toe was displaced upward and almost lay on the outwardly displaced great toe When the shoe was on, the second joint of this toe caught the brunt of the dorsal pressure of shoe in this region This pressure was transmitted through the first phalanx to the metatarsal, causing depression of the arch On the sole of the foot was a callus where the metatarsal pressed

Operation —Amputation of second toe at first joint At operation it was noted that the first phalanx articulated, not with the head of the metatarsal, but with its dorsal surface

Result —Metatarsal pain never reappeared after operation (seven months ago) The patient was so pleased that she returned for hallux valgus operation which she had previously refused

CASE 2 —Man aged 26, tall, slender and athletic, complained of pain at head of fourth metatarsal, left foot

History —Pain was first observed suddenly while the patient was playing tennis two years ago It intermittently annoyed

palpation in this region On 30th November, he was thinner and distinctly weaker than on admission He was vomiting everything he swallowed, although at times he was able to retain small feeds of milk and soda for an hour or two His abdomen was a little more distended Pyloric obstruction due to malignant disease appeared a possible diagnosis

At 8 A M on 1st December, the patient suddenly became collapsed and almost pulseless The abdomen was tense and more distended and the patient passed urine and fæces on to the bed Major W I Thompson, R A M C, saw the case in consultation He noted that the epigastrium was the only region where pain and tenderness were present There was no evidence of a tumour and percussion delimited a normal liver dulness There was marked dulness in the right flank Major Thompson decided to perform a laparotomy, but the patient died at 10-30 A M before this could be done.

Captain Fotheringham carried out a post-mortem examination When he opened the abdomen in the middle line, large quantities of typical liver abscess pus welled out He was then able to pass his fist directly upwards into a large cavity in the left lobe of the liver There were old adhesions between the liver and diaphragm The liver was soft and flabby, but not enlarged The abscess had ruptured downwards through the inferior surface of the left lobe, in the neighbourhood of the pylorus of the stomach into the general peritoneal cavity The estimated quantity of pus was between two and three pints The intestines were not matted together and there was no lymph exudate

Comments—These two cases present a remarkable difference in their respective periods of symptomatic warning Thus in the first case there were some nine months during which the abscess declared its presence and during which a diagnosis might have been made Whereas in the second case the patient became aware that he was ill only 20 days before his death

Rogers gives tables of complications and terminations of liver abscess (1) Out of 81 cases of complicated right-lobe abscess three terminated in acute general peritonitis without operation Out of 14 cases of fatal left-lobe abscess one died from rupture of the abscess into the omental bursa

Manson(2) quotes a series of 159 cases of spontaneous rupture of liver abscess with 39 cases of rupture into the peritoneum, 6 cases of rupture into the lumboiliac region, and 2 cases of rupture into the kidney Rogers(1) and Manson(2) both recommend laparotomy with washing out and drainage of the peritoneum in cases of rupture into the peritoneal sac Castellani and Chalmers(3) state that this accident is bound to end fatally , but Manson(2) has seen recovery after laparotomy and drainage.

TEMPERATURE CHARTS

Case A

No pyrexia from 22nd June, 1921 to 23rd July, except on two occasions, *i e*, evening temperature 99 6 degrees F on 28th June, and evening temperature 99 degrees F on 13th July

Case B

By permission of Captain J B Fotheringham, R A M C

ILLUSTRATIONS CASE A

Liver hardened in formaline

A View of anterior surface of liver

The abscess cavity has been distended with cotton-wool

B View of posterior surface of liver

The medial part of the posterior wall of the abscess cavity consisting of the upper part of the right kidney has been hinged backwards The piece of stick enters a small extension of the abscess cavity into the substance of the kidney, the anterior surface of which is incorporated in the abscess wall

C View of posterior surface of liver

The kidney has been reconstructed by sewing together its two portions Above and lateral to the kidney, the gap in the posterior wall of the abscess is visible, through which the abscess communicated with the perirenal and retro-colic abscess cavities

REFERENCES

(1) Dysenteries, by Sir Leonard Rogers, 1913

(2) Tropical Diseases, by Sir Patrick Manson, 1917

(3) Manual of Tropical Medicine, by Castellani and Chalmers, 1913

A Mirror of Hospital Practice.

ELECTRIC-IONISATION AND NOSE OPERATIONS

By DR. K. N PRADHAN,

Nagpur

MR S was advised to undergo a sub-mucus resection of the septum The indications for the operation were as follows —

I Extreme deviation of the cartilage to the right with big basal spurs on both sides

II Obstruction to air way on right side

III Constant catarrh of the nose

IV Granular condition of two septal mucus-membranes

V Obstructive deafness of the right ear and the impossibility of passing an eustachian catheter to open up the eustachian tube and make the air of middle ear normal

VI Reflex cough

Operation—After cocaine-adrenaline paste anæsthesia, the usual incision was made and the

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[For other information see second page following reading matter]

SATURDAY, FEBRUARY 29, 1908

THE EARLY ACCOUNTS OF EPIDEMIC POLIOMYELITIS

The early accounts which tend to establish any particular disease as a definite clinical entity naturally have a peculiar interest to all who find pleasure in tracing the development of medical knowledge. The recent epidemics of poliomyelitis, especially in Norway, and during the past few months in various parts of this country also, have directed attention to the historical side of this disease, which no doubt occurred in the past in about the same way as it is manifesting itself in these days. At first, Bergenholtz, in Finland, was thought to have been the first to describe an epidemic of poliomyelitis, at least in Europe, his report covering 18 cases. Then it was found[1] that the disease had been clearly described in 1868 by A. C. Bull, a country physician in Norway, under the title of "Meningitis Spinalis Acuta."

Bull reported to the health authorities fourteen cases of this disease, with five deaths. His description is minute and clear, he shows himself a keen clinical observer, as may be seen from the following quotations: "The disease commenced with fever, which in most cases, however, was quite light. Then came pricking pains of a fleeting nature here and there in the different joints and limbs as well as in the back, and in some cases there was also more or less widespread tenderness on pressure along the spinal column, at times only in the cervical region, at times only in the lower part of the dorsal region. The next phenomenon was paresis or in some cases complete paralysis either of one or as a rule of several limbs, appearing from three to four or five days after the outbreak of the disease. In one case, both lower extremities became paralyzed, as a rule, one lower and one upper extremity, either on the same side or on opposite sides, suffered, occasionally the paresis became actually stationary in only one limb, a preceding brief and insignificant paresis of some other limb being, as a rule, demonstrable. Sometimes there was found paresis of the muscles of the back of the neck on one or both sides. There was no sign whatsoever of a simultaneous affection of the cerebrum, a little headache, dizziness, and rarely vomiting were it is true, observed in a few cases but were attributable to the fever. Remarkably enough there was not in a single case convulsions nor was there any anesthesia. When the disease had lasted four or five days a change took place, either the paresis spread eventually reaching the respiratory center with fatal result, consciousness remaining until the very last or the febrile phenomena disappeared quite rapidly, as did the tenderness in the back as well as the pains, recovery being prompt except as to the loss of use or diminution in use of one or more limbs. In most cases, the paralysis became less and less pronounced and reduced to paresis, while the paralysis at first extended to all the muscles of an extremity it later became limited to only individual muscles so that contractures arose through the predominance of the healthy muscles."

Twelve of Bull's cases occurred in children between 4 and 10 years of age, one in a girl of 15 and one in a man of 20. He also mentions two so-called abortive cases. Bull's anatomic localization of the morbid process in the spinal meninges is, of course, not at all strange when we consider the state of the general knowledge of the anatomy of the nervous system at that time (1868). Nor would it be strange if the same disease was found to have been described by others under other more or less misleading titles. Indeed, this seems clearly to have been done by an American physician so long ago as 1841, namely, by George Colmer in Louisiana. Colmer's statement[2] is very brief and runs as follows:

"While on a visit to the parish of West Feliciana, La., in the fall of 1841, my attention was called to a child about a year old, then slowly recovering from an attack of hemiplegia. The parents (who were people of intelligence and unquestionable veracity) told me that eight or ten other cases of either hemiplegia or paraplegia had occurred during the preceding three or four months within a few miles of their residence, all of which had either completely recovered or were decidedly improving. The little sufferers were invariably under 2 years of age, and the cause seemed to be the same in all—namely, teething."

Colmer's and Bull's observations appear to be the earliest now known to foreshadow clearly the clinical entity of epidemic poliomyelitis. It would be interesting to trace the further growth of our knowledge of this disease to the present time when the actual cause of the infection is the problem that calls most urgently for immediate solution. That, however, lies outside the scope of this statement.

1 Leegaard, Norsk Mag. f. Laegevidenskaben, 1907, lxviii, 1241.

2 Paralysis in Teething Children, Am. Jour. Med. Sci., 1843, v, 248.

A PHYSICIAN POET

A movement is on foot to obtain the permission of the Dean of Westminster, on whom devolves the privilege of conferring such permissions, to allow a memorial to be placed in Westminster Abbey in honor of the Canadian poet, William Henry Drummond. Few readers of current literature in this country are ignorant of the name and have not been delighted with some of

A Potain aspirator attached to the trocar may be used to secure thorough evacuation of the fluid, and the cavity of a large hydrocele may be flushed out with sterile saline injected through the cannula The sac must be thoroughly emptied, for any remaining fluid will shield the serous lining from the caustic

The needle is carefully retained in place during the withdrawal of the cannula, then 1 c c to 6 or 8 c c of the alcohol-phenol mixture is injected through the needle into the sac The needle is withdrawn and the solution gently but thoroughly massaged into all parts of the sac A collodion dressing completes the operation

SHORT NOTES ON A CASE OF RAT-BITE FEVER IN SHILLONG

By BIRAJ MOHAN GUPTA,
Sub-Assistant Surgeon

(*Communicated by Major F P Mackie*, I M S, *Director, Pasteur Institute, Shillong*)

MRS G, a Hindu lady of about 20 years and apparently in good health, was bitten by a rat in the middle of the forehead on the night of 19th December, 1921 The wound, however, healed up in two days , and no notice was taken of the accident, till, on the 9th day (28th December, 1921), the site of the bite became œdematous, and with this there was a rise of temperature which was ranging between 101 degrees and 102 8 degrees F Severe pain was also felt at the site of the bite as long as the fever persisted

On the 12th day (31st December, 1921), the temperature came down and remained normal for four days With the coming down of the temperature, the pain at the site also subsided but œdema persisted

After four days, the temperature again went up and remained high for six days During this second febrile attack, the pain was more severe and the glands on both the sides of the neck, the parotid and the sub-maxillary glands became swollen, causing difficulty in swallowing There was also pain in the joints, especially in the upper limbs The bowels remained constipated all throughout No skin eruption was noticeable

On the 19th day (7th January, 1922), an incision was made into the swelling and a little sero-sanguineous fluid let out Smears made from this were stained by Leishman, Fontana and Burri's methods, for spirochætes, but were negative A few cocci only were seen in the Leishman slide

The finger blood was examined daily for four days during the febrile period but revealed no spirochætes A gland puncture was suggested but was not agreed to A positive diagnosis of the disease became rather difficult, although the clinical symptoms suggested it to be a case of rat-bite fever

On Major Mackie's suggestion ½ c c of blood was drawn from the median basilic vein on 8th January, 1922, *i e*, last day of the second febrile attack and 20th day from the bite—and injected subcutaneously into two white mice One of these was killed on 26th January, 1922 The spleen was found to be enormously enlarged , other organs were found apparently normal Smears from heart, blood, spleen and liver were made and stained by Leishman and examined Only the cardiac blood smears showed scanty but typical spirochætes (*S morsus muris*), while the liver and spleen smears were negative.

The morphology, as seen in the heart's blood, is characteristic a spirochæte which is very minute, only about four microns in length, and shows two or three short steep spirals and has pointed ends It stains densely with Leishman's and Giemsa stain, appearing almost black

This spirochæte does not appear to have been seen before in this side of India, though Row has isolated it in Bombay and Liston has seen several cases Fresh mice were inoculated from the infected animal referred to, so it is hoped to keep up the strain The patient was not treated with salvarsan or any similar drug, though it appears that rat-bite fever, like most spirochætal diseases, is readily curable by its use.

ACCESSORY EXTERNAL EAR

By PASUPATI BOSE, M.B,
Assistant Surgeon, Noakhali

DEBENDRA CHANDRA PODDAR (second son), Hindu, male, age 24, cloth merchant, Noakhali, native village, Chandpur Mother living, father died, 16 years before, from cholera No deformity in parents or in brothers and sisters Mother's sister's first son has got a small accessory finger on the left little finger.

The following conditions were found as shown in the diagram —

The second external auditory meatus is represented by a blind canal, about half an inch long, running from the centre of a depression representing the concha External diameter of the orifice is one-sixth inch The pinna of the ear is represented by cartilaginous projections above and below, and on the external side, a small portion of the middle is represented by a fold of skin An auricular appendage with cartilage inside is lying in front of it

The primary external acoustic meatus is developed from the first branchial groove

The primary auricula or pinna is developed by the gradual differentiation of six tubercles, which appear around the margin of the first

the danger of infection, abscess formation or septicemia, is a problem well worth study Fermi[1] believes that he has met many of the objections, but to what extent has not been determined, since his method has not yet been tested on human beings His results with animals, chiefly rats, appear promising By adding 1 per cent carbolic acid to fixed virus and using large quantities he obtains a satisfactory virus which preserves its efficiency for at least four months Other antiseptics were tried, but none was found so satisfactory as carbolic acid

If some such preparation as this proves effective and its potency does not deteriorate rapidly, it may be feasible to keep it on hand at central depots so that in cases of injury from rabid animals the treatment can be started at once and carried out under the direction of the home physician in the same way as we at present treat diphtheria with antitoxin

THE LANCET LIBEL CASE

Our British contemporary, the *Lancet,* recently lost a libel suit brought against it by the English agent for an American nostrum, the details have been given in our London letter[1] That the *Lancet's* criticism of the nostrum should have contained a statement that was not capable of documentary proof is unfortunate Yet we incline to the belief that out of this evil will come much good The trial and its result have awakened the public and the medical profession in England to the widespread use of habit-forming nostrums, and a vigorous crusade is now being waged against this evil

The trial brought to light two facts that are worthy of consideration One was that no fewer than three physicians—not irregulars, but licensed practitioners—admitted on the witness stand that they either had used the nostrum themselves or had prescribed it for their patients This indicates that the moral and financial support given "patent medicine" manufacturers by the thoughtless prescribing of nostrums is not confined to this side of the Atlantic The other was the surprising ignorance of the judge on the subject of chronic cocainism When the evil of allowing the indiscriminate sale of a remedy containing cocain was before the court, Judge Ridley made the following remarkable statement "Surely it (the cocain habit) must be infrequent I thought it was chiefly to be found among the Indians of South America" Another remark of the judge is worth noting as indicative of his attitude toward the defendants throughout the trial Alluding to the nostrum vendor's practice of supplying his "specific" on trial for a fortnight, his lordship remarked that it seemed to be "a case of no cure, no pay—a thing you don't get from many doctors" When we bear in mind the enormous influence judicial comments have with British juries the verdict is not altogether a surprise

In an editorial commenting on the result of the trial the *Lancet* states that "the verdict leaves us strictly unrepentant," and, while in the future "the expressions used must be those which can not be so easily challenged our policy must remain unaltered" The unpleasant necessity may, therefore, again arise for the *Lancet* to justify its eminently proper attitude toward quacks and quackery When this occurs it is to be hoped that the case will not be tried before a judge whose ignorance of drug addictions causes him to think that cocainism is "chiefly to be found among the Indians of South America"

In conclusion, we can not resist the suggestion that while the *Lancet* is investigating American nostrums as sold to the public direct, it might with propriety examine those offered to physicians, whose claims appear in its own advertising pages

THE RESULTS OF ONE MEETING

The widespread influence of a frank discussion of existing evils is shown by an editorial in the *New Orleans Picayune,* Sunday, February 2 Nearly a column of space on the editorial page is devoted to a report of a recent joint meeting held by the Chicago Medical Society and the Chicago druggists After commenting on the war which is being waged on "patent medicines" and the harm resulting from the use of such preparations, the *Picayune* says "There are many pharmacists who deplore the use by physicians of these ready-made compounds Many leading physicians are realizing the importance of such a reform and are uniting with the pharmacists in the effort to secure such a result" In such joint meetings the *Picayune* sees a possibility "of a real reform that will put all medication on its merits and redound to the proper protection of the people, both sick and well" That the Chicago meeting was productive of much good locally was recognized That the influence of the meeting should have extended as far as New Orleans is gratifying It is even more gratifying to have such newspapers as the *Picayune* recognize the importance of the "patent medicine" evil and the need of united efforts to correct it.

CANADIAN NATIONAL BUREAU OF HEALTH

Possibly influenced by the suggestions afforded by the movement in this country for a national health bureau and the arguments advanced in favor of it, our Canadian neighbors are also taking up the subject The medical members of the Dominion House of Commons have started an effort to impress on the government the advisability of federal supervision of health matters instead of leaving it, as heretofore, to be a purely provincial affair They, like ourselves, can see the evils of ununited effort and with more reason it may be, since there is not the degree of general oversight and control that is to be found on this side of the line in our general pure food law and in the functions of the U S Public Health and Marine-Hospital Service The problems to be met in Canada are not so numerous as those existing

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(*Vide* Presidential Address, British Pharmaceutical Congress, 10th July 1918)

schools will be closed on account of the epidemic.——Three cases of smallpox have developed near Wawaka.——During the smallpox visitation at Alexandria, about 69 cases had occurred up to January 16. The epidemic is now believed to be at an end.——Two fully developed cases of smallpox have been discovered at Marion.——Several cases of smallpox are reported in one family in Wanatah.——"Wabash scratches" is said to be prevalent at Mexico.——There are said to be 54 cases of scarlet fever and diphtheria in Allen County.

Personal.—Dr. William H. Wishard, the oldest member of the Indianapolis Medical Society and the State Medical Society, celebrated his ninety second birthday anniversary January 17.——Dr. T. Victor Keene, former state bacteriologist, has taken the Pasteur treatment on account of accidental inoculation from the brain of a dog suffering from hydrophobia.——Dr. Warren R. King, Greenfield, has been appointed assistant surgeon of the Indiana State Soldiers' Home, Lafayette.——Dr. Joseph F. Somes, Vincennes, is said to be seriously ill with septicemia.——Drs. Robert J. Kemper, Ferrell W. Dunn and John A. Leas have been appointed house physicians of the Deaconess Hospital, Indianapolis.

Society Meetings.—At the December meeting of the Elkhart County Medical Association Dr. J. Albert Snapp, Goshen, was elected president, and Dr. George W. Spohn, Elkhart, secretary.——The preliminary meeting for organization of the Eleventh District Medical Society was held in Peru, January 31. The following officers were elected: President, Dr. Charles H. McCully, Logansport; county vice presidents, Cass County, Dr. Henry B. Hill, Logansport, Miami County, Dr. Edward H. Griswold, Peru, Carroll County, Dr. Charles M. Kennedy, Camden, Grant County, Dr. Daniel A. Holliday, Fairmount, Huntington County, Dr. Helen K. McIlvaine, Huntington, White County, Dr. Madison T. Didlake, Monticello, and Wabash County, Dr. Lorin W. Smith, Wabash, and secretary treasurer, Dr. Maurice H. Krebs, Huntington. The next meeting of the society is to be held in Logansport, April 29.

IOWA.

Cows Inspected.—Beginning with February 18, all milk and cream sold in Iowa Falls must be from inspected cows. The city council on February 10 passed an ordinance requiring milk inspection as provided by the State Board of Health.

Itinerant Physicians.—The State Board of Health announces that there are now only four physicians licensed as itinerant physicians in the state of Iowa. The licenses of three of these individuals expire Aug. 23, 1908, and that of the fourth on Jan. 21, 1909.

Election.—At the annual meeting of the Iowa Society of Clinical Surgery, held in Des Moines, February 5, Dr. Wilton W. McCarthy, Des Moines, was elected president, Dr. Donald Macrae, Council Bluffs, vice president, and Dr. David S. Fairchild, Jr., Clinton, secretary treasurer.

Communicable Diseases.—Two cases of cerebrospinal meningitis are reported near Morning Sun, with one death.——Several smallpox patients and suspects of an itinerant band of musicians are under quarantine at Alden.—Graettinger reports two cases of smallpox.——Several cases of smallpox are said to exist near Eddyville.——On account of the prevalence of smallpox, rural school No. 7, Liscomb Township, Marshall County, has been closed.

Personal.—Dr. Albert De Bey, Orange City, has been appointed a member of the State Board of Health, vice Dr. Fred W. Powers, Waterloo, term expired.——The medicolegal committee of the state medical association composed of Drs. David S. Fairchild, Clinton; Joseph M. Emmert, Atlantic, and Lawrence W. Lettig, Iowa City, has employed the firm of Wade, Dutcher & Davis to look after all cases of malpractice brought against members of the association.——Dr. William L. Becker, Dubuque, has been reappointed physician for Dubuque Township.

State Sanatorium.—The State Sanatorium for the Treatment of Tuberculosis, Iowa City, was opened February 1 for the treatment of pulmonary tuberculosis in the incipient stage, and now has 11 patients. The sanatorium has been completed at a cost of more than $125 000 and is equipped with all modern appliances. A very large list of applications for admission has been received but many persons have been refused on account of the advanced stage of the disease. Inquiry in 1904 by the State Board of Control disclosed the fact that there were 8,000 cases in the state at that time and that nearly 2 000 deaths occur each year from the disease.

Society Meeting.—The monthly meeting of the Dubuque County Medical Society was held February 10. There were 17 present. The members of the Dubuque District Dental Society were the guests of the evening. The annual dues were raised from $4 to $5. Rev. A. E. Kepford, lecturer for the Iowa State Board of Control, who had just finished a week's campaign of education against tuberculosis in the city gave a short address and incidentally complimented the physicians of the county on their unity of purpose and the effective manner in which the public lectures were arranged and carried out. Twenty lectures on tuberculosis, many with stereopticon views, had been given by Mr. Kepford and over 5,500 people reached in this way. In addition hundreds of tracts were distributed to school children and mothers. The society committee having the matter in charge consisted of Drs. George Minges, John S. Lewis, Albert H. Blocklinger, Lily Kinnier and Mary A. Killeen. The remaining portion of the program was as follows: 1. "Anesthesia," Dr. Charles M. Linehan. Discussion by Drs. William P. Slattery, Bernard A. Michel, William L. Becker, Joseph Schrup and John M. Walker. The following doctors of dental surgery took part in the symposium: Drs. J. V. Conzett, J. F. McParland and J. A. Meshinger. 2. "Clinical Findings of Autointoxication," by Dr. Alanson M. Pond. Discussion (surgical), Dr. John C. Hancock, (medical), Drs. George A. Staples, Frank W. Wieland, Albert H. Blocklinger, Mary A. Killeen and Langworthy. 3. Demonstration of pathologic specimens.

MARYLAND

Pure Food Law.—Dr. William H. Welch, president, and Dr. Marshall L. Price, secretary, of the State Board of Health appeared before the committee on hygiene of the House of Delegates, February 20, to urge that the enforcement of the provisions of all the pure food laws be lodged in the State Board of Health.

Drainage Commission.—William M. Hill has had a bill introduced in the legislature for the appointment of a sanitary drainage commission, consisting of the governor, secretary of the State Board of Health, commissioner of health of Baltimore, state entomologist and state geologist. This bill provides for the drainage of swamp lands, the extermination of the mosquito and also provides for the appropriation of $25 000, of which $15,000 is to be used for drainage.

Care for the Indigent Insane.—A bill has been introduced into the legislature by Senator Gorman repealing the law by which the state is obligated to take over and care for the indigent insane beginning Jan. 1, 1909. He claims that the law is impracticable and would involve the state in enormous expense. Dr. George J. Preston, Baltimore, has protested against this action, claiming that the state treasury is in excellent shape, and that the state is well able to take care of its insane and to provide suitable quarters for them.

Personal.—Dr. Harry Nalley, Mount Rainier, has been elected medical advisor and physician to the Maryland Agricultural College, College Park.——Dr. Howard Bratton, Elkton, has been appointed a member of the State Board of Health.——Dr. Charles M. Ellis, Elkton, has been appointed a member of the board of managers for the Hospital for Consumptives of Maryland, Baltimore.——Dr. W. Frank Hines, Chestertown, has been appointed superintendent of the bureau of immigration.——Dr. John Mace, Cambridge, has been appointed election supervisor.

Baltimore.

Personal.—The governor has appointed Drs. G. Milton Linthicum, Frederick Caruthers, William T. Riley, Patrick F. Martin, Roland T. Abercrombie, Silas Baldwin, Herbert Black, Otto M. Reinhardt and Thomas Sudler as coroners of Baltimore City.——Douglas H. Thomas, Jr., Baltimore, has been appointed a member of the State Board of Health.——J. S. Ames, Baltimore, has been appointed a member of the board of managers of the Hospital for Consumptives of Maryland.——Dr. J. Dimmitt Norris has been appointed police examiner for Baltimore.——Dr. Anna V. Hoffman left for Pekin, China, February 17.

The Johns Hopkins Hospital Report.—The superintendent of Johns Hopkins Hospital reports that during 1907 there were 4,576 patients in the hospital, 2,137 males and 2,439 females. At the close of the year there were 231 white patients and 72 colored patients in the hospital. There were 4,859 persons treated, of whom 3,779 were white and 1 080 colored. 1,466 were medical cases, 1,685 surgical, 986 gynecologic and 439 obstetric. Of these 3 543 were discharged well and improved, 107 remained unimproved, 353 discharged without improve

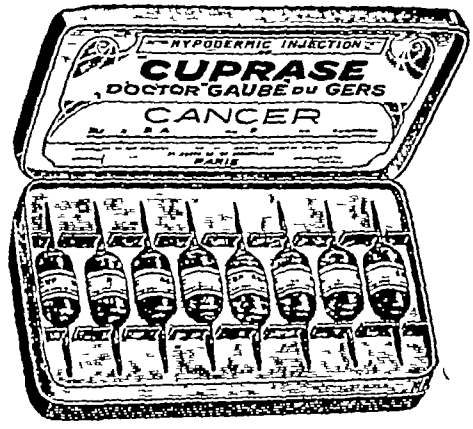
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censor, Dr. Sullivan Howard, Elk Creek, and delegate to the state society, Dr. Albert P. Fitzsimmons, Tecumseh.

NEW YORK.

Diphtheria in Yonkers.—Because of the outbreak of several cases of diphtheria in Yonkers, the health department has begun a complete investigation of the sources of milk supply.

Money for Hospital.—At a combination of luncheon, matinee and tea arranged by Mrs. William K. Vanderbilt for the Nassau Hospital, Mineola, L. I., more than $5,000 was cleared for the institution.

Antispitting Ordinance.—The board of health of Olean has provided an ordinance making it a finable offense to spit in street cars, railway cars or on the floor or stairs of any store or public building, or any office or public place in that city.

Champlain Valley Hospital.—This hospital has received a bequest of $25,000 to complete a building on which $50,000 has been raised by popular subscription and already spent, and an endowment of $200,000 from the late Royal L. Smith, Plattsburgh.

Optometry Bill Again Introduced.—Senator Wilcox has introduced a bill at Albany which recognizes optometry as a profession. The committee of legislation of the Medical Society of the County of New York is active in the prevention of its passage. Heretofore this bill has been defeated.

Communicable Diseases.—At Newburgh 4 cases of smallpox were reported in 36 hours, one of the patients being a principal of a school containing 800 pupils. The school has been closed, and the board of health has commandeered a large house on the outskirts of the city, to be used as an isolation hospital.——At Peekskill 70 cases of typhoid fever are said to exist.

Personal.—Dr. Thomas A. O'Hare has been elected president, Dr. Joseph R. Culkin vice president, Dr. Philip Conboy secretary-treasurer, and Dr. James P. Brady a member of the staff of St. Mary's Hospital, Rochester.——On the retirement of Dr. Albert T. Browne as attending physician of the Masonic Home, Utica, February 6, he was presented by the superintendent and nurses with a cut glass decanter and glasses.——Dr. Milton D. Graham, Utica, has resigned as district physician on account of ill health.——Dr. Scott W. Skinner has been elected president of the Leroy Antituberculosis Association.

Hospital Notes.—The common council of Lockport has decided to build an addition to the City Hospital in memory of Morrison R. Evans, who bequeathed $10,000 for that purpose.——The physicians of Lockport, at a meeting held recently, formulated plans for the creation of a staff for the City Hospital which was formally opened February 3. Dr. S. Wright Hurd has been elected chairman, and Drs. Henry H. Mayne, Charles N. Palmer, Flavius J. Baker and William H. Hodson, members of the advisory board.——With one dissenting vote the members of the Auburn Medical Society approved the resolution to turn the Municipal Hospital into a hospital for the treatment of tuberculosis.——A permit has been issued to the Buffalo General Hospital for the building of a new hospital on the other side of Goodrich Street to cost $35,000. The funds for the purpose were bequeathed by the late Dr. D. W. Harrington.

Meat Inspection Needed.—The Citizens' League declares there is a need for state meat inspection and regulations to restrict the spread of bovine tuberculosis. There is no effective inspection in the state, and diseased cows are killed and sold to consumers without any check on their healthfulness as food. It was evident that in a large number of small establishments which escaped adequate inspection up to the time of the passage by Congress of the law of 1906 nearly two and a half times as many tuberculous cattle were being killed and prepared for consumption and nearly twice as many cattle affected with all kinds of diseases. The federal postmortem inspection of cattle in New York State Oct. 1, 1906, to Sept. 3, 1907, shows the following: At establishments having inspection before July 1, 1906: total inspected, postmortem, 473,411; total condemned, 451; per cent condemned of total inspected, 0.095. At establishments put under inspection July 1, 1906: total inspected postmortem, 112,549; total condemned, 343; per cent condemned of total inspected, 0.304. In this state 138 establishments which had previously escaped federal inspection were brought under such inspection by the law of 1906. Of these 2 are in Binghamton, 28 in Brooklyn, 9 in Buffalo, 8 in Canajoharie, 1 in Cortland, 1 in Hudson, and 83 within the boundaries of the old city of New York, 2 in Rochester, 2 in Syracuse and 1 in Troy.

Bovine Tuberculosis.—Prof. Veranus A. Moore of the New York State Veterinary College has prepared a report for the joint committee on the prevention of tuberculosis of the New York Charity Organization Society and the milk committee of the New York Association for Improving the Condition of the Poor, showing the extent of the spread of bovine tuberculosis in this state. Making a total of all tests to which his attention has been called, he finds that 61.7 per cent. of 626 herds are affected, and that more than 33 per cent. of all cattle examined were affected. Professor Moore bases his conclusions on data obtained from the State Department of Agriculture and on statistics obtained from practicing veterinary surgeons throughout the state. Professor Moore says that about 2 per cent. of the affected cattle have the disease localized in the udder and that of the remainder 15 per cent. give off the bacteria at some time in the course of the disease. He recommends that the state pass more rigid laws regarding the introduction of infectious cattle into the state, providing for an equable disposition of the reacting animals, extending the power of inspection to properly qualified veterinarians and providing instructions for the owners of herds.——Five of eight cows kept on the Watervliet Arsenal Reservation were found to be infected with tuberculosis. One of the animals killed for beef showed that it was badly diseased. State Veterinarian W. H. Kelly examined the living animals and caused four to be killed.

State Hospitals.—Dr. Charles F. MacDonald states that there are in this state 29,000 certified lunatics, not to mention the large number of border line cases who were at any time likely to require medical care and attention. The average life of the insane is twelve years and the annual per capita cost of maintenance is about $200; therefore, each person who fails to recover during this period represents a loss to the state of $2,400, whereas, a sane man for a like period represents a gain of $2,400. To-day there are fifteen state hospitals for the insane (two for insane criminals), and twenty-two licensed institutions for the insane. The whole number of committed insane in the public and private hospitals of the state at the end of the fiscal year, Sept. 30, 1907, was 29,093 (13,927 men and 15,166 women). The whole number of insane in licensed private institutions was 977. The net increase for the fiscal year in all institutions was 791, in the state hospitals including the criminal asylums, the net increase was 799. The number of resident medical officers in state hospitals was about 150, and attendants, nurses and other employés, 5,000. The cost of the state hospitals represented an investment of more than $26,000,000, while the average annual expenditure for their maintenance was about $5,000,000. The average weekly per capita cost of maintenance was for the last fiscal year $3.53. This weekly rate was somewhat higher than the average for the whole United States in which the number of insane was roughly estimated at 200,000.

Report of State Department of Health.—Dr. Eugene H. Porter, commissioner of this department, in his report to the governor states that there is greater activity in the protection of the streams and their purity than ever before. The system in use for many years in Massachusetts has been adopted. He predicts that in a short time there will be a complete stoppage of the pollution of the streams which now cause about 20,000 cases of typhoid yearly, with 2,000 deaths. Cohoes, Niagara Falls, Elmira, Poughkeepsie, Ogdensburg and Newburgh have been investigated and special examinations made of the topographic, geologic, industrial and sociologic conditions, together with the water supply, sewage facilities, ice and milk supplies and garbage collections. He also declares that from one seventh to one tenth of all the deaths and an enormous proportion of invalidism are due to tuberculosis, and states there are probably 50,000 cases and 15,000 deaths annually from tuberculosis in New York. He asks that the state grant authority to the department for a registration and necessary investigation of all cases of tuberculosis, and for this campaign an initial appropriation of $75,000 should be made. In order to check the disease the following steps have been decided on:

1. The completion of the state's tuberculosis exhibit, the one constructed last year having been shown in many places. The department should have at least three complete exhibitions to be used simultaneously in different parts of the state.
2. Participation in the International Tuberculosis Congress to be held in Washington, D. C., next September in a manner worthy of the Empire State.
3. Necessity of the registration of all cases of tuberculosis. You can not give aid to any consumptive or protect his neighbors until you know what help he requires—until the case is properly reported and the conditions described. The state should give the department the necessary authority in this matter.

The vital statistics show a death rate of 17.5 per 1,000 inhabitants, as against 17.1 for 1906, and an average of 17.2

Indian Medical Gazette.

APRIL

THE INDIGENOUS SYSTEMS OF MEDICINE

WE understand that the Government of Bengal has recently appointed two committees to "consider and report, after taking such evidence as may be thought necessary, what practical steps can be taken for the restoration and development of the Ayurvedic and Unani systems of treatment, with special attention to the question of the teaching of those systems with any necessary modifications, under proper supervision and control"

On each of these committees there are several representatives of modern scientific medicine, as well as representatives of the systems whose restoration is contemplated

The position seems to be rather illogical in that the members of the committee do not appear to have been asked whether it is desirable or useful to restore the systems, they have been asked to accept the restoration as a policy which has been agreed on, and they are merely asked to draw up a scheme by which that policy can be given effect to In Madras, the procedure has been quite different, there an enquiry into the value of the old systems has preceded the consideration of the best means of restoring them In the Madras Government Order of 10th August, 1921, the following sentence occurs 'The object of the proposed enquiry is to afford the exponents of the Ayurvedic and Unani systems an opportunity to state their case fully in writing for scientific criticism and to justify state encouragement of these systems"

The Madras Committee has prepared a set of questions for the practitioners of the indigenous systems and it is likely that the replies to these will enable us to form some clear idea as to the teachings and practices of the systems concerned

It is to be hoped that the Bengal Committees will also obtain the fullest information on these points before they proceed to formulate a scheme for the teaching of the Ayurvedic and Unani systems, but they are somewhat hampered by the terms of reference which, strictly speaking, do not authorise them to enquire into the desirability of restoring the ancient systems The members of the committee must obviously make themselves familiar with the teachings of the systems, otherwise it is not easy to see what useful purpose they can serve on a committee for their restoration and development The committee is faced with much the same problem as would be a body of scientific chemists who were asked to devise a scheme for the restoration and teaching of alchemy

Let us suppose that the representatives of the indigenous systems agree to a preliminary enquiry into the merits of their systems and that the medical members of the committee find out some points of superiority in the indigenous systems, they will naturally inform the world of their discoveries, and if these are found to be useful, they will at once be incorporated in the practice of modern medicine

On the other hand, if the systems are not to be subjected to examination and criticism, the medical members will be compelled to dissociate themselves from any movement directed towards restoring systems which are based on tradition and which are not open to investigation It is to be hoped that the systems will be thoroughly examined, for if they contain any methods which are superior to our existing practices, we are only too anxious to adopt these at once Modern scientific medicine is admittedly a barefaced robber and its votaries are constantly on the sharp look-out for any improvements in connection with the diagnosis and treatment of disease its representatives cannot usefully serve on the committees except on the distinct understanding that they are to be at liberty to publish to the world the results of their enquiries Public funds cannot rightly be spent on the endowment of any form of education which is not open to scientific examination and it is presumably for this reason that the Government of Madras has placed on the exponents of the systems the onus of proving that their methods are deserving of encouragement

There is a good deal of mental confusion regarding the relative spheres of scientific medicine and the "systems" of medicine Some people imagine that all medical practice consists of systems and they talk about the "Allopathic system" as if it were a competitor for public favour on the same lines as the Homeopathic or Ayurvedic or Unani systems This is far from being the truth and the term "Allopathic system" is a most unfortunate misnomer which we ought to repudiate. If there be such a system, or if

Massillon has left Vigo Spain, on his way to South America ——Dr George D Lummis has been elected health officer of Middletown ——Dr Winifred M Johnston has been appointed city physician of Findlay ——Dr Corliss Keller, Hamilton has been appointed assistant house physician of Longview Hospital, Cincinnati ——Dr Charles R. Pontius has been elected vice president of Fremont City Hospital

Communicable Diseases—The schools of Blanchester have been closed on account of three fatal cases of cerebrospinal meningitis among the pupils ——Measles is reported to be epidemic at Youngstown ——Typhoid fever is reported to be very prevalent at West Manchester and vicinity, Preble County, where 44 cases have been reported, with one death The infection is said to have been due to contaminated water from an abandoned well ——An epidemic of scarlet fever which has prevailed in Figeon Run for some time, is now said to be under control, the schools and churches have been reopened and the quarantine has been removed from the houses —— Several cases of smallpox of mild type are reported from Columbus Grove and Gilboa ——Several cases of smallpox are reported in North Urbana ——*It is reported that there are a number of cases of smallpox at Three Locks, near Chillicothe, and north of Urbana*

OREGON

Hospital Notes—The new Eugene General Hospital erected at a cost of $20,000, was opened recently ——The Sisters of St Francis have purchased a site in Baker City on which to erect a hospital to cost about $100,000

Guilty but Recommended to Mercy—Dr William T Eisen Portland charged with contributing to the delinquency of a minor, by performing a criminal operation on her is said to have been found guilty, but recommended by the jury to the mercy of the court

Personal.—Dr Robert E Lee Steiner, Klamath Falls has assumed charge of the Oregon State Insane Asylum vice Dr John F Calbreath ——Dr L L Rowland Salem for many years connected with the state asylum is reported to be critically ill ——Dr E W Barnes, North Powder sustained a severe injury to his head by a fall while traveling on the steamer *Alliance* to Portland, January 23

Communicable Diseases.—*Smallpox is reported to be epidemic throughout eastern Oregon* ——Le Grande reports 20 cases, Baker City several cases and at Durkee 25 cases have occurred ——At Clackamas Heights 9 cases of smallpox have developed ——The scarlet fever epidemic northwest of Brownsville is reported to be subsiding, only one case has recently developed ——There are several cases of scarlet fever in Pendleton ——Physicians estimate that there are 1 500 cases of influenza in Umatilla County ——The public schools of Forest Grove have been closed on account of diphtheria

Medical Board Elections—At the annual meeting of the State Board of Health Dr Alfred Kinney, Astoria, was elected president, and Dr Andrew C Smith, Portland, vice president ——Drs Herbert C Coffey, Portland, and Edward B McDaniel Baker City, have been appointed members of the Board of Medical Examiners of the State of Oregon, vice Drs Walter E. Carll, Oregon City, and Angus B Gilbs, Salem At the annual meeting of the board held January 9, the following officers were elected President, Dr William S Mott, Salem, secretary, Dr Byron E Miller, Portland, and treasurer, Dr Robert C Coffey, Portland

PENNSYLVANIA.

Personal—Dr Milton A Hengst Birdsboro, is seriously ill at his home as a result of cerebral hemorrhage ——Dr J T McCaskey was elected mayor of Lancaster February 17 —— Dr Richard H Simmons, Shamokin medical inspector of Northumberland County, has been placed in charge of the state tuberculosis dispensary, Shamokin ——Dr Bertrand K. Wilbur has been elected to the board of health of Lower Merion Township and has been assigned to the division comprising Rosemont and Bryn Mawr

Prevalent Diseases.—Measles continues in epidemic form in Pittsburg, where more than 1,200 *cases have been reported* since February 1 Measles is also epidemic in other sections of the state, and reports show that more than 40 cases have recently been reported in the vicinity of Glenside and Edge Hill The Glenside public schools have been closed on account of the disease ——An epidemic of typhoid fever has broken out in Boswell and the disease is said to be increasing at an alarming rate The town has a population of 1,000 and thus far 175 cases have been reported The source of infection is attributed to the water supply

Philadelphia.

Personal.—Dr Albert P Brubaker was elected president, and Drs Charles F Taylor and Bertha Lewis were elected trustees of the Society for Ethical Culture, February 19 ——Dr J Torrance Rugh has been appointed consulting surgeon to the Eastern Pennsylvania State Institution for Feeble Minded and Epileptics, Spring City ——Dr Jay F Schmamberg was elected first vice president, and Dr Samuel W Gadd, sixth vice-president of the Philadelphia County Medical Society, February 12, to fill vacancies made by recent legislation

Hospital Note.—*The Northwestern General Hospital of* Philadelphia elected the following staff February 12 Consultants —Physician, Dr William E. Hughes, surgeon, Dr William L. Rodman, ophthalmologist, Dr S Lewis Ziegler, laryngologist and otologist, Dr Joseph S Gibb, genitourinary surgeon, Dr Hilary M Christian, and pathologist, Dr Allen J Smith Visiting Staff —Physician and secretary of staff, Dr H Brooker Mills, surgeon, Dr J Thompson Schell, ophthalmologist, Dr Luther C Peter, laryngologist and otologist, Dr Carl L. Velt, genitourinary surgeon, Dr Hugh P McAniff, and pathologist, Dr W Taylor Cummins

Health Report—The deaths reported for the week ended February 22 was 590, a decrease of 33 from the previous week and a decrease of 60 from the corresponding week of 1907 The principal causes of death were Typhoid, 32, measles, 4, scarlet fever, 4, whooping cough, 6, diphtheria, 11, consumption 76, cancer, 17, apoplexy, 18, paralysis, 9, heart disease, 78, acute respiratory diseases, 105, diseases of the arteries, 10, enteritis, 20, cirrhosis of the liver, 6, acute nephritis, 6, Bright's disease, 34, puerperal septicemia, 8, congenital malformation 6, premature birth, 6, congenital debility, 9, old age 8, suicide, 7 accidents, 10, and marasmus 5 There were 341 cases of contagious diseases reported, with 47 deaths, as compared with 260 cases and 34 deaths reported in the preceding week.

TENNESSEE

Dinner to Trenton Profession.—The medical profession of Trenton was entertained at dinner by Dr Thomas J Happel January 24 For a number of years Dr Happel has celebrated his anniversary by giving a dinner to the profession of the city

Society Meeting—At the annual meeting of the Rutherford *County Medical Society, held in Murfreesboro, Dec. 4, 1907,* the following officers were elected Dr James J Rucker, president, Dr Andrew J Jamison, vice president, Dr Rufus Pitts, secretary treasurer, Dr Enoch H Jones, delegate to the state society, and Dr Harry C Rees, alternate

Communicable Diseases.—Measles is reported to be epidemic in the vicinities of Neptune, Henrietta, Chief Hill and Thomasville.——*On account of the prevalence of smallpox,* general vaccination has been ordered throughout Columbia and Maury counties ——Several cases of smallpox are reported in Franklin ——Smallpox is reported to be prevalent in and around Murfreesboro ——Several cases of smallpox are reported in Crossville and Harriman ——Winchester reports 14 or 15 well *developed cases of smallpox, all of mild type* ——*Grip and* pneumonia are reported to be epidemic at Humboldt, Milton, Kenton and Trenton

Personal.—Dr E. William Carney, Shelbyville, fractured his arm in a runaway accident February 6 ——Dr James A. Albright, Nashville, has been re-elected secretary, and John Hamil assistant secretary of the State Board of Health —— Dr Blackburn G Tucker, Nashville, has been elected health officer of Davidson County, and chairman of the board of health ——Dr George W Booker, Knoxville, has been elected physician of Knox County ——Dr William E. Hibbett has been elected health officer of Nashville, vice Dr Larkin Smith —— Dr James L Andrews has succeeded Dr Frank S Raymond as president of the board of health of Memphis, and Dr John C. Bell has been made secretary of the board

TEXAS

Epileptic Colony—The board of directors for the State Epileptic Colony has awarded a contract for the building of two additional brick cottages to accommodate 40 male patients

Yellow Fever—The steamer *Crispin,* which arrived in Galveston roads February 16 from Para Brazil, has been placed in quarantine on account of the presence of two cases of yellow fever among its officers

THE LEISHMANIASIS PROBLEM *

MAJOR PATTON, who has devoted a great portion of his time during the last 16 years to the subject of the transmission of kala-azar, before leaving the field of active research on this subject, has given us his last words in a paper entitled "The Kala-azar and Oriental Sore Problems" in the January number of the *Indian Journal of Medical Research*

He commences by pointing out that the parasites of kala-azar and of oriental sore belong to the genus Herpetomonas, and that they were primarily insect flagellates He considers that the word Leishmania should be dropped, and he disposes of Wenyon's claim that Leishmania is a separate genus by reference to the recent work of Laveran and Franchini, who have caused a kala-azar-like disease in animals by infecting them with insect flagellates He has studied the life-cycle of a number of insect flagellates and finds that here there is much to be learnt, which will throw light on the problems under discussion

There are two ways by which the parasite can leave the human body that is, by the agency of a blood-sucking insect or through the alimentary tract In the latter case, it must either leave as a flagellate, which is improbable, as flagellates easily die in the presence of other micro organisms, or as a round form If round forms are passed, it is probable that they would have been found in the mucus in the stools, but such forms have never been found

The blood-sucking insects that come under suspicion are mosquitoes, sandflies (Phlebotomus), fleas, lice, ticks and bugs Experiments have been carried out with a number of varieties of mosquito, but developmental forms have never been found in their mid-gut Sandflies are infected with a natural Herpetomonas, but Major Patton has examined a large number of these insects and has not found any in Madras so infected, he therefore dismisses the sandfly as an improbable carrier Experiments with fleas, lice and ticks have failed to show that any development occurs in the insects This leaves the bug only as the probable carrier He disposes of the claim of Conorrhinus rubrofasciatus, as it feeds principally on the house squirrel and only bites man under provocation He also reminds us that it has a natural flagellate infection Cimex hemiptera he considers the probable carrier

He was at first under the impression that a feed of fresh blood subsequent to the infecting feed would kill all the developing and developed flagellates in the bug's stomach, and that the means by which infection occurred was by regurgitation It has now been proved that infection by regurgitation cannot occur, and further that subsequent feeds do not kill the flagellates By cultural experiments he has shown that they can survive for 41 days at least despite intermediate feeds He has never found parasites in the pumping organ, proboscis or the salivary glands, he therefore assumes that the infection is caused by the crushing of the bugs on the skin He considers that the "thick tail," described by Cornwall, which only occurs when the flagellates come in contact with the stomach and the intestine of Cimex, but not with those of any other insect, is part of the intra-cellular stage of Herpetomonas donovani, and that the intra-cellular stage described recently by Mrs Adie, which he says he himself has been able to confirm is only a further development of the thick tail He says that the discovery of this intra-cellular stage is the "final proof that Cimex is the true invertebrate host of Herpetomonas donovani" He has shown that the development of the parasite in the bug is dependent on certain temperature conditions and that this accounts for the fact that kala-azar is not more widely distributed The slowness of the spread of the disease is accounted for by the fact that only a small percentage of bugs become infected, a heavy peripheral blood infection being necessary to effect this He is, however, of the opinion that the disease has a much wider geographical distribution than is popularly supposed All his experiments with crushing bugs on monkeys have so far failed On the analogy of the infection of Euphorbiæ with Herpetomonas davidi by Stenocephalus agilis, he thinks that a small easily overlooked lesion is first formed at the site of inoculation, from which the infection rapidly becomes generalised

Major Patton is of the opinion that the causative parasite of oriental sore should be called Herpetomonas furunculosa This parasite occurs on the western side of India along the frontier and the course of the Indus and its tributaries, its eastern limit is not well defined, but it reaches as far south as Cambay He has examined a large number of sores in Cambay and has found that they occur all over the body,

*By Dr L Napier, Calcutta School of Tropical Medicine.

physician, while others had been concealed for fear of quarantine In January there were vaccinated in Winnipeg by the health authorities 971 persons, and there had been 37 cases of smallpox in that city since the first case was discovered early in December Of the persons who had the disease only six had been vaccinated

Personal —Dr A D Unsworth, superintendent of the Mountain Sanitarium, Hamilton, Ont, has resigned and gone to Europe for graduate work.——Dr John Stewart, Halifax, N S, has returned from Europe ——Dr Thomas A Davies Toronto, has returned from abroad ——Dr J G McKay Montreal, has been appointed assistant superintendent at the Provincial Hospital for the Insane, New Westminster, B C —— Lieut. Col G Carleton Jones, M D director general of the army medical service, Ottawa was tendered a banquet in Toronto February 5, by the officers of the army medical corps in Toronto ——Dr Jean Phillippe Rottot has retired from the deanship of the medical faculty of Laval University, Montreal, which he has held since 1891 ——Dr E J Turnbull, who for the past two years has been assistant physician at the Protestant Hospital for the Insane at Verdun, Quebec, has resigned and has been succeeded by Dr Robert King, Montreal ——Dr Forrestor of the Mimico (Ont) Provincial Hospital for the Insane has been appointed assistant superintendent at a similar institution at London

Hospital News —The Nicholas Hospital, Peterborough Ont, which was endowed to the extent of $200,000 by the Charlotte Nichols estate, has recently received an additional grant from the same source, which with the income from pay patients and the grant from the Ontario government, will make the institution self sustaining ——A free dispensary has been started in Winnipeg, Man ——Glengarry private hospital, Montreal which has been conducted for a number of years by Dr Fernand Monod, has been closed and Dr Monod will practice with his father in Paris ——The General Hospital at Brandon, Man, may be closed for want of funds The total indebtedness of the hospital is placed at $29 000 The total amount received from municipal and government grants last year was $11,272 There were not so many patients treated as in 1906 ——The Royal Jubilee Hospital at Victoria, B C, is looking for more money At present Victoria contributes $5,000 a year to the hospital, and the council will be asked largely to increase this grant During December 78 patients were admitted, of whom 59 were treated free of cost ——The Manitoba legislature, now in session, is considering the question of the grants to the various hospitals of the province ——Delegates representing the various hospitals recently conferred with the government and it was suggested that a minimum of $1 per day should be provided by municipalities for each of their charitable patients ——The Protestant Hospital for the Insane at Verdun, Que, has been presented by Dr James Douglass of New York with a farm adjoining the institution, valued at $42,000 Dr Douglass is a son of Dr James Douglass, who for a long time was identified with the Beauport Asylum ——Last year between 600 and 700 children were treated in the various wards of the Winnipeg hospitals, so a movement has been started in that city toward the establishment of a hospital for children only ——The number of patients treated in the Royal Victoria Hospital, Montreal, during 1907 was 3 398, a decrease of 46 from the previous year Of these 1,994 were Protestants, 1 071 Roman Catholics, 290 Hebrews, and 43 of other faiths There were 1,656 free patients and 1,280 public ward patients, paying 50 cents and $1 per day There were 462 private ward patients The total days' hospital stay were 81 902 On Jan 1 1907, there were 224 patients left in the hospital from 1906 During the year 3,404 were discharged, of whom 1,897 were well, 1,002 improved 165 not improved, and 123 not treated The deaths numbered 217, and of these 71 took place within forty eight hours of their admission During the fourteen years this hospital has been in existence it has treated 36,524 patients In the out patient departments the number of patients treated during 1907 was 4 156 The total per diem cost per patient was $1 79 ——During 1907 the Toronto General Hospital treated 1,098 city order patients, St Michael's, 719 Crace, 231, and Western, 253 In view of the fact that the three latter are asking Toronto's city council for grants of $50 000 each, Dr Charles Sheard the city medical health officer, asks for a written agreement that the money granted will be spent on city patients and not for a scheme of general improvement ——The Hospital for Sick Children, Toronto is asking the city council to raise its annual grant from $10 000 to $16 000 ——The annual meeting of the Protestant Hospital for the Insane at Verdun, Que, was held in Montreal recently At the beginning of 1907 there were 507 patients in the hospital, while at the opening of 1908 there were 533, 284 men and 249 women The admissions during the year numbered 108 The discharges numbered 104 and the deaths 39 The total receipts from all sources amounted to $118,269, and the expenditures, $121,641 In his report Dr Burgess, the superintendent, emphasized the need for drastic preventive measures to offset the growth of insanity both as to heredity and immigration ——There is a proposition before Grace and the Western hospitals, Toronto, which is also being discussed by the city council, looking toward the amalgamation of these two hospitals, preliminary to a prospective grant of $100 000 to the institutions. The Western Hospital has a fine site for a large hospital, and in the event of amalgamation taking place, the present Grace Hospital building would be abandoned ——The Toronto General Hospital will shortly open its outdoor department, a short distance from Toronto University Temporary quarters will be occupied until the new hospital buildings are erected.

FOREIGN

Fifth Pan American Medical Congress —This congress is to meet at Guatemala, Aug 6 to 10, 1908, and arrangements are being made for twenty one sections English, Spanish, French and Portuguese are the congress languages, and articles intended for the congress must be in the hands of the secretary, Dr José Azurdia, Escuela de Medicina de Guatemala before July 15 The last Pan American congress was held at Panama in 1905, except for the delayed contingent, whose steamer broke down, and whose "proceedings" in their improvised "congress" on board were accepted as part of the regular congress

Smallpox in China —The Pekin correspondent of the *Lancet* states that every winter sees a recrudescence of smallpox in China, and suggests that perhaps it is caused by the Chinese taking their winter clothes from the pawnshops These garments consist of two layers of cotton between which is a thick layer of cotton wool In North China inoculation is still practiced to some extent, though in recent years it has been supplemented by calf lymph, a supply of which has been imported from Japan At various points throughout Pekin the government has established vaccination stations where those who care to submit themselves can be vaccinated without any regard for asepsis

Fourth International Congress for Medical Electrology and Radiology —The first international congress was held at Paris in 1900, the second at Berlin in 1903, and the third at Milan in 1905 The fourth is to convene at Amsterdam, Sept. 1 to 5, 1908, and will be accompanied by an exhibition of appliances for clinical and laboratory work and collections of skiagrams, etc. Professor Wertheim Salomonson is president of the congress, and Dr J G Gohl, Vondelstraat 53, Amsterdam, is the general secretary Membership in the congress is open to all taking an interest in the development of the electrobiologic and radiologic sciences English, French and German are the congress languages, and the membership fee is $5

Publication of Ancient Medical Writings —Prof H Diels of Berlin is said to be mainly responsible for the inauguration of the publication of the works of the great medical writers of antiquity, although several scientific academies are to cooperate in the undertaking It will require, he estimates, from sixteen to twenty years The collection is to be called the "Corpus medicorum," and is to be published by the firm of B G Teubner, who are now issuing the comparatively recently discovered works of Philomenos on pharmacologic subjects The *Allg med Ct Ztg* states that the Greek writers will fill thirty two volumes, Hippocrates requiring two and Galen thirteen The Latin writers are to be issued under the auspices of the Puschmann endowment for the history of medicine

Nostrums in Japan.—It appears that proprietary medicines and civilization, to some extent, go hand in hand It is well known that Japan has been extraordinarily apt in acquiring western civilization Perhaps much of it is veneer, but it can not be gainsaid that in the art of war and in the tricks of the trade Japan has now little or nothing to learn from her erstwhile teachers With the advent of civilization has come into existence in Japan a remarkably flourishing business in nostrums of all descriptions, and it is said that the wily Japanese is capable of meeting on equal terms the American vendor of proprietary medicines It has been frequently said that the first products of civilization to be introduced to a primitive race are the Bible, gunpowder and whisky It would seem that in some instances as in the case of the Boers and the Japanese "patent medicines" follow gunpowder and whisky, whether they are as harmful it would be hard to say

the whole of the onus on the shoulders of the clinician

It seems extremely probable that the parasite under discussion was originally an insect parasite, but, if this is the case, the question that arises is "Of which insect is it the natural parasite?" Is the life-history of the Herpetomonas as follows—it is the natural flagellate of some insect, the infection of man and possibly some other vertebrates was accidental, but led to the further accident of the infection of Cimex, it now enters on a new and peculiarly precarious existence, if the infection of the bug is a light one, the parasite rapidly dies out, and if, on the other hand, the infection is a heavy one, the bug dies? Whether the death of the bug is a necessary step in the cycle is another question Mrs Adie's bug died, apparently of Herpetomoniasis, and was not dissected for at least 36 hours after its death Cornwall has pointed out that the thick-tail forms seldom occur in undamaged mucous membrane of the bug's stomach, but that when this is teased and commences to decompose, thick tails become common Or is it the natural parasite of Cimex? If this is the case, why has it never been found in nature, despite the fact that many tens of thousands of this insect have been dissected?

The discharging of the sandfly as the transmitter of kala-azar because it is found to possess a natural flagellate in districts which are not infected with kala-azar and is found not to be infected in certain kala-azar districts, is in itself not an unsound argument until practically the same facts are used in support of the sandfly being the carrier of L tropica And again if he considers the sandfly to be the carrier of L tropica in Mesopotamia because it is the only blood-sucking insect that possesses a natural flagellate, why should it not be the carrier of L donovani in Assam, where it is heavily infected with a natural flagellate

I think that Major Patton will stand very much alone in his claim that Cimex is the transmitter of L tropica in certain districts It is now such a well-established fact that oriental sore occurs almost invariably on exposed parts The fact of the wider anatomical distribution in Cambay only suggests to my mind that possibly the people of this district expose their whole skin surface with the exception of their genital organs If it is accepted that Cimex is not the transmitter of L tropica, all Major Patton's experimental work with this parasite tends to show that the stomach of Cimex is an excellent medium for the development of flagellates and could be used as a very strong argument against his theory of the transmission of L donovani by that insect

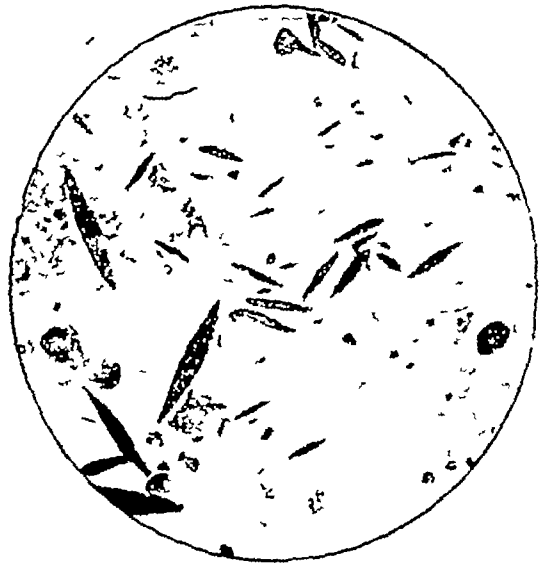
I do not think that it is yet proved that Cimex is the true invertebrate host of L donovani Furthermore, I think that this bug is at present occupying our minds to the dangerous exclusion of consideration of all other possible means of transmission of the infecting organism of kala-azar

Current Topics.

Charcot-Leyden Crystals

The following paragraphs are from a paper on Charcot-Leyden crystals in the stools as an aid to the diagnosis of entamœbic dysentery, by John Gordon Thomson, M B, Ch B, Director of Protozoology, London School of Tropical Medicine, and Andrew Robertson, M B, Ch B, Assistant in Protozoology, London School of Tropical Medicine, and Grocer's Research Scholar —

Thomson and Hirst, 1918, describing the stools of *entamœbic dysentery*, come to the following conclusions "A very common feature of these amœbic stools is the



presence of Charcot-Leyden crystals caused by the breaking down of the red cells by the action of the *entamœbæ* Charcot-Leyden crystals, although not pathognomonic of amœbic dysentery, are, in our experience, very suggestive of the condition, and we have noted their frequency in cases of cyst carriers with no obvious blood in the stools"

In his very interesting paper, Acton, 1918, states that a very high degree of association exists between *E histolytica* and Charcot-Leyden crystals, that they do not occur in infections with intestinal entozoa, and that in the absence of amœbæ their presence is indicative of amœbic colitis -

Therapeutics

[It is the purpose of this department to outline an up-to date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters, that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Arthritis.

Treupel, in the *Münchener med Wochenschrift*, Sept 24, 1907, reports on clinical observations made on 529 patients suffering with various forms of articular rheumatism Four hundred and seventy one patients having acute or subacute articular rheumatism were treated with salicylates, by the mouth or intravenously, and with local hyperemia The sodium salicylate was always at first given internally, and when this failed to be of benefit, after five or six days, it was used intravenously If it then failed, other salicylic preparations were tried

Of several salicylic preparations used, none acted better than the sodium salicylate During the first two days from 4 to 6 grams (1 to 1½ drams) of sodium salicylate were given each twenty four hours As soon as there was improvement the quantity was reduced to 3 grams (45 grains) in twenty four hours, and this amount continued until the temperature was normal and there was no more pain It seemed to be demonstrated that pure sodium salicylate does no harm to the kidneys

Besides the above medication, in all of the 471 patients the painful joints were given rest and as much immobilization as possible The use of cotton bound around the joints and fixation by bandages and cushions also did good by inducing a local hyperemia Hot air and venous stasis proved valuable

Antistreptococcic serum treatment was not encouraging, Treupel believing that the general and local bactericidal treatment is met by salicylic acid.

GONORRHEAL ARTHRITIS

Dr Robert N Willson of Philadelphia, in the *Boston Medical and Surgical Journal*, Nov 7, 1907, says that "gonorrhea is not merely a local infection of the urethra, but in every case it is a systemic infection of the blood and lymphatic glands"

Treupel (*Münchener med Wochenschrift*, Sept 24, 1907), says that besides the healing of the primary disease in gonorrheal arthritis, the chief reliance should be placed on venous hyperemia, hot air, and later, massage and baths

In an editorial of the London *Lancet*, Oct 12, 1907, a discussion of the above subject by the Société Médicale des Hôpitaux of Paris, on July 26, 1907, is quoted Dr Queyrat described a method of treatment of this disease "which, if practiced from the onset, enables the patient to walk with ease at the end of three weeks, and prevents the stiffness and ankylosis which so frequently occur" The treatment advised is '1, Early aspiration, 2, energetic counter irritation 3, early movement"

1 After shaving and rendering the skin aseptic, aspiration is performed on the outer side of the joint about two fingers' breadth below the patella Aspiration should be done early, as later the fluid has changed to a fibrinous mass and could not be drawn off A large needle (3 millimeters) is used and the quantity of liquid removed may vary from 50 to 100 c c Queyrat has aspirated such knee joints 200 times without any ill result After the puncture he applies the pointed actual cautery 200 to 400 times and sears the puncture by cauterizing it, then he applies compression to the joint Four days later progressive movements are begun, and for this purpose he uses a pulley and weight apparatus, the patient lying in bed This exercise prevents the muscles from atrophying, performs extension of the knee, and hastens the absorption of the residue of articular effusion

At a meeting of the Section on Surgery of the New York Academy of Medicine, held May 3, 1907, the serum treatment of gonorrheal arthritis was discussed (*Medical Record*, Oct 26, 1907)

Dr John Rogers stated that the antigonococcus serum found best was that prepared from the sheep, and the dose of an active serum is about 2 c.c. (30 minims) This was injected "into the loose subcutaneous tissue between the deep fascia and skin in the back of the upper arm, first on one side, then on the other, at intervals of from two to six days" If thorough asepsis was maintained and the serum was clear and not contaminated, suppuration would not occur Following the local reaction there would be an increase in the joint symptoms for a few hours, which was later followed by more or less marked improvement Rogers stated that "in cases treated early in the disease, before there had been time for much effusion or anatomic changes, two or three of these injections at intervals of 24, 48 and 72 hours, might effect a complete cure but the urethritis or the original source of the infection should not be neglected, as the serum had little or no effect on it, and unless the usual local antiseptic and astringent treatment was energetically carried out, a reinfection or recrudescence of the metastasis could be expected."

Patients who had had gonorrheal joint symptoms for several weeks might require a dozen or more injections, but "in at least 75 per cent of all of the acute or subacute or early chronic forms of the disease success might be expected" The failures would be in those individuals suffering from a mixed infection, and the chronic gonorrheal joints were not helped

Dr John Torrey, in the same discussion, confirmed the opinion of the previous speaker that "the antigonococcus serum exercised a specific curative influence in a high percentage of cases of gonorrheal rheumatism" The serum had been used in 70 patients with gonorrheal arthritis with 55, or 78 per cent, either entirely cured or much improved In the remainder there was slight or no improvement The average number of injections per patient was 5, and 20 individuals were cured in 10 days or less Even some of the chronic cases were improved, though it required many more injections, and the improvement was tardy

Pleurisy with Effusion

Sir James Barr, in the London *Lancet*, Nov 9, 1907, discusses at length the physiology and dynamics of the lungs and pleural spaces

He says "owing to the marvelous provisions of Nature the two lubricated pleural surfaces can move freely over one another but any force that separates them must be greater than the atmospheric pressure in the lungs It takes at least an atmosphere to separate the two pleural surfaces, and when the surfaces are separated by fluid, it must have been secreted at a greater pressure than the atmosphere"

He believes that every attack of pleurisy is due to some micro organism or its toxin, and that even a pleurisy following an injury means that the part has become more vulnerable to such organisms. He, also, believes that it is important to decide if possible to what germ the pleurisy is due, and that in pleurisies due to chronic illness, as granular kidney, the germ or toxin present attacks the pleura because its vitality is diminished. He finds that a vast majority of pleurisies are tuberculous, but a considerable number are rheumatic or due

of syphilis treated at Durban The injections had been given daily or on alternate days until all signs of active disease had disappeared and in each case the salt was dissolved in boiling water just before the injection was given. It was not found necessary to use more than 1½ grains of tartar emetic for an intravenous injection, and as a rule this was dissolved in 3 c.cm of boiling saline. Similar success was obtained when antimonium sodium tartrate was used, but after the usual tolerance had been acquired 2 grains of this salt was injected on alternate days The toxic effects of the treatment were not severe enough to interrupt the continuous series of injections

Where tartar emetic is used in freshly dissolved solution and the patient kept under the influence of the drug for a continuous period of three weeks to a month, the results obtained were not considered to be inferior to those due to arsenic.—The *B M J*, February 18, 1922

Researches on the Cinchona Alkaloids

By HUGH W ACTON, M R C P, L R C P (Lond.), MAJOR, I M S

THE author begins his paper in the *Lancet* of 21st January, 1922, with remarks on the chemical and stereo-isomeric relationship of the different alkaloids obtained from cinchona bark Quinine, he says, has been regarded as methoxy derivative of cinchonine, but since quinine is lævo-rotatory and cinchonine is dextro-rotatory, the probability is that quinine is not derived from cinchonine The true relationship exists between cinchonidine, cupreine and quinine, called the 'cinchonidine series"—which are all lævo-rotatory—on the one hand, and cinchonine cupreidine and quinidine—called the "cinchonine series"—which are all dextro-rotatory, on the other In cinchona bark, a number of closely related alkaloids have been shown by him in a previous paper, all exerting a destructive action on the malarial parasites, but differing in the degree of destruction In benign tertian infection, the dextro-rotatory alkaloid quinidine has been shown to be more efficacious than the lævo-rotatory alkaloid quinine He argues that as optical activity often conditions the pharmacological action of a drug, these dextro-rotatory alkaloids may also be more toxic to lower forms of parasitic life, and he puts in a plea for investigation of the higher substitution products of cupreidine which is optically related to quinidine Both cupreine and cupreidine, which are closely allied to cinchona alkaloids, are found in cuprea bark (*Remigia pedunculata*) From them various substitution products—*e g*, opto-chin, vuzin, etc, can be synthetically prepared, which have a marked toxic action on certain pathogenic organisms, in very high dilutions By experiment on mammals and protozoa, the author has demonstrated that a definite relationship exists between optical activity and pharmacological action On mice, the dextro-rotatory alkaloids, "cinchonine series," are all more toxic than "cinchonidine series" On paramæcium, the dextro-rotatory alkaloids, in alkaline culture, are more toxic than the lævo-rotatory and the toxicity increases with the higher members of the series The investigation of cinchonine derivatives (*i e*, from hydro-cupreidine) therefore offers great possibilities as regards their action on bacteria and protozoa, as they are distinctly more toxic to mice and paramœcium than the cupreine series The most interesting and instructive part of the paper, from a clinical point of view, deals with the experiments performed by the author to determine the action of cinchona alkaloids on digestive enzymes and he sums up his conclusions as follows —

1 The cinchonine series have a greater inhibitory action on the digestive enzymes than the cinchonidine series

2 The inhibition is most with trypsin, less with pepsin, and feeble with erepsin If these alkaloids were given half an hour after a meal, they would not interfere with ptyalin digestion

3 The stronger the concentration, the greater is the inhibition produced by these alkaloids Therefore, unnecessarily large doses should be avoided, and the alkaloid should be given well diluted

4 The inhibition is less when the ferment is first allowed to attack the protein than when protein is allowed to be first impregnated with the alkaloids Therefore these alkaloids should always be given after a meal

5 The mono-salts, *e g*, commercial sulphates, should always be given with the acids, as they use up the free HCl in the stomach, and thus further inhibit peptic digestion In pill form the bihydrochloride or bisulphate should always be prescribed

6 Any inhibition occurring in peptic digestion leads to deficiency in the formation of peptones Therefore these alkaloids should be given at the end of peptic digestion—*i e*, half an hour to two hours after a meal

7 These alkaloids increase the amplitude and slow the rhythm of intestinal muscle The diarrhœa observed is probably due to an interference with digestion, both in the stomach and intestines, and not to its action on intestinal muscle

With regard to local effects on tissues, which are produced by strong solutions of alkaloidal salts, such as are used for intramuscular injections, the author has produced experimental evidence in favour of the fact that necrosis is caused by the strong acid character of the solutions injected, the quinine being precipitated in the form of a base A negative chemotaxis of leucocytes occurs as long as the alkaloid remains at the site of inoculation He is further of opinion that tetanus occurring after injections is entirely due to faulty technique and there are indications in favour of Semple's assertion that leucocytes carry tetanus spores from the intestine or from surface wounds and deposit them in the necrotic area produced by quinine injection

Major Acton also points out that administration of acid salts of quinine, such as bihydrochlorides, which are generally used, is wrong from a

following appeared in THE JOURNAL, Aug 17, 1907, page 617 Roche's Embrocation is a nostrum and its exact composition is not known From published formulas it appears that it is prepared by digesting a fatty oil with asafetida The following formula for a similiar preparation has been published Coarsely powdered asafetida and alkanet, each 5 0 gm (75 grains), are digested, with olive oil 180 gms (6 fluidounces), during eight days and then filtered To the clear filtrate are added oil of caraway, oil of turpentine, each 9 0 gm (2 25 fluidrams), oil of pine needles, 1 2 gm (18 minims), and oil of bergamot, 0 8 gm (12 minims) Another published formula directs that 2 5 gm (38 grains) asafetida be digested for a few hours with 60 0 gm (2 ounces) olive oil, the clear oil is decanted and mixed with 2 0 gm (30 minims) each of oil of caraway and oil of turpentine, and a few drops of oil of bergamot

LEHN & FINK'S METHODS

How They Advertise and How the Testimonial Market Is Supplied.

By a curious coincidence we received by the same mail two communications from physicians in different parts of the country regarding the advertising methods of Lehn & Fink of New York City One of our correspondents, Dr John A Hawkins of Pittsburg, Pa, who enclosed a letter from Lehn & Fink to which we refer below, calls attention to this firm's method of reaching physicians Dr Arthur R. Elliott of Chicago, who sent the other letter shows the attitude of Lehn & Fink toward the public. Dr Elliott's letter is so illuminating that we give it in full

To the Editor —The enclosed two pamphlets were received through the mail recently by one of my patients and he being very much impressed by their contents and fully persuaded that he had "uric acid poisoning" brought them to me to ask my advice about the advisability of at once beginning treatment The one marked "Fourth Series" was received first and prepared the way nicely for its successor It is apparent that the profession now being able to discriminate between the truth and poetry regarding uric acid, Lehn & Fink who for so long a time have sought our favors have decided that it will be more profitable for them to work the public direct I would particularly invite your attention to the effusion in the second pamphlet by Edward P Adams a member of the American Medical Association [While the article written by Dr Edward P Adams states under the title that he is a member of the A M A, this information, like much of the "scientific" matter in the article lacks the element so essential for conviction—truth He is not a member—ED] and more especially to the footnote on page nine [This footnote is referred to later It has reference to the author's willingness to give advice by mail —ED] This comes precious near being quackery It seems to me that the conduct of this firm should be brought to the attention of the profession

ARTHUR R ELLIOTT

It appears from the enclosures that the firm in question is at present "pushing" Piperazine Water—advertised as a gout and rheumatism "cure" To awaken interest in this preparation two series of pamphlets are published One, entitled "Notes on New Remedies" is sent presumably only to physicians, the other, which presents a gaudier appearance and a more attractive cover is sent through the mails to the public direct Each of these publications contains an eleven or twelve page article by Edward P Adams M D, of Cincinnati This gentleman's articles are written to suit his audience In "Notes on New Remedies" he discusses learnedly—for physicians—the causal relation of uric acid to gout and rheumatism, and gives—for physicians—an imposing bibliography in the most approved style In the other series he discourses fluently —this time for the public—on "Uric Acid Diseases and Their Treatment with Piperazine Water" In yet another pamphlet of the same series the "Cause and Cure of Rheumatism and Gout" are popularly discussed—also for the public—and his readers—still the public—notified that *"the author is at liberty to give advice by mail!"* [Italics ours —ED]

The question may arise in the physician's mind as to how Lehn & Fink obtain these voluminous testimonials exploiting their products Dr Hawkins enclosed with his letter a communication he received from Lehn & Fink which sheds some light on this subject We give it in full

Dear Sir —Our attention has been directed to the December issue of the *Proctologist*, in which there appears your paper on constipation We have read this with very much interest, particularly that portion where you make reference to the value of phenolphthalein From the wording of this portion we infer that you may have mentioned the preparation Purgen[1] also and that probably the editor cut it out when the article was published, in fact, we have been told as much

Under separate cover we are sending you the latest issue of our publication, "Notes on New Remedies," which is just off the press We should have been very pleased to reprint in full your paper in our "Notes" had it not been mutilated in the way we assume We accordingly desire to ask if you can not find it within your time and inclination to prepare an original communication treating of the use of Purgen in intestinal troubles, for publication in the next issue of "Notes"

We should value such a paper highly and we are sure our readers, who number some 16,000 among the most representative of the medical profession, would likewise appreciate the information that you may give *Our customary remuneration for papers of this character is $10 00 per printed page* [Italics ours —ED] which we are pleased to offer you if the offer meets with your approval Awaiting your early reply, we are,

Very truly yours,

LEHN & FINK

This letter causes one to wonder whether the twelve page disquisition on the "Treatment of Gout and Rheumatism with Piperazine," by Dr Edward P Adams, is really, what it purports to be, a scientific article of general interest to the medical profession or merely a $120 testimonial made to order "by request" One is doubly suspicious, too, that the four page article in the same publication on "The Internal Treatment of Gonorrhea" (with Gonosan), represents but $40 worth of "copy" This Gonosan testimonial was written by the renowned A H Ohmann Dumesnil, A.M, M E M D, Ph.D, etc., editor of the, now defunct, *St Louis Medical and Surgical Journal* of unsavory reputation Possibly, however, Lehn & Fink vary their schedule of rates for such testimonials according to the professional standing of the authors furnishing them

TUBERCULOIDS TABLETS

Another "Consumption Cure" and Its Fraudulent Claims

CHICAGO Jan 14, 1908

To the Editor —The card, of which the following is a copy, is so evidently exploiting a fraud that the fact should be made known to the profession

PHTHISIS PULMONALIS CURABLE.

By the Germicidal Antiseptic (non irritating), Alterative, Reconstructive, and Restorative properties of TUBERCULOIDS TREATMENT for TUBERCULOSIS The medicinal factor being TUBERCULOIDS TABLETS, a chemical production proven efficacious by bacteriological tests, substantiated by practical use by physicians under all kinds of climatic and systemic conditions Full size package ($1 50 size, 200 tablets) furnished free to accredited practicing physicians on return of the attached card Ample information furnished by personal letter for intelligent administration Originated and manufactured only by COLUMBUS PHARMACAL COMPANY, COLUMBUS, OHIO Serial No 3219, Guaranteed under the Food and Drugs Act, June 30, 1906,

All who are in touch with the literature of tuberculosis pulmonalis know that there is no "germicidal antiseptic or

1 Purgen is the trade name for the aperient drug phenolphthalein In Europe this product seems to be advertised in street-cars omnibuses and even on hotel toilet paper (See THE JOURNAL, Nov 2 1907 1541) Extravagant claims are made for it and while phenolphthalein may be bought for 40 cents an ounce. Purgen is quoted wholesale at $3 20 an ounce in tablet form For further information see THE JOURNAL Sept. 14 1907 954

soluble bismuth salts is irrational, since they lack the soothing qualities which constitute the main value of the insoluble products Opium and its alkaloids are considered to have no effect when applied to the skin, hence opium plaster is now non-official and the opium in *lotio plumbi cum opio* is condemned. Of chlorodyne, Professor Cushny says "it is superfluous," and of that famous compound, Warburg's tincture, used by so many in India for malaria, he says "it contained a very large number of ingredients, many of which were certainly entirely superfluous"

The reader is referred to the list put out by the American Medical Association, in that handy little book "Useful Drugs" It is practically the same as that published by Cushny in his Therapeutic Index, sixth edition This is a list drawn up "to assist in suggesting to practitioners and teachers possible additions and deletions"

Taking this list as one practically complete to meet the everyday needs of the average prescriber, it would pay the hospital superintendent and the practitioner to sit down and find out just how much unnecessary material he has in his working formulary and in his store room, and delete it from regular use. Such unnecessary stocks should be sold or got rid of at the dispensing counter as early as possible.

There is no good reason for retaining potassium hydroxide in the list when we have sodium hydroxide in stock for general use as a caustic alkali Benzoic acid is only a minor genito-urinary antiseptic, with boric acid and salicylic acid always available, it is superfluous to have this as well It is surprising that considering the high price of iodoform and its very mild antiseptic value it is much used in hospital work. Izal and certain good brands of lysol are miscible with salt solutions and body fluids, are stronger than phenol in action, and are very much cheaper Bismuth subcarbonate answers every purpose for which bismuth is required The nitrate sometimes gives rise to nitrate poisoning

The enzyme drugs are so unreliable in their keeping properties that one is scarcely justified in stocking them It should be remembered that digestive disturbances are rarely due to a deficiency of ferments

Should a rare case arise needing these drugs, they can be obtained fresh from a reliable drug firm. Apomorphine is dramatic, but seldom required Of the two, sulphates of copper and zinc, only one is really needed

Cathartic pills and castor oil are effective vegetable purgatives, and with the able assistance of that well-tried saline purge, magnesium sulphate meet most of our ordinary wants There is little need to drag in drastic croton oil or costly cascara for daily work. Sodium sulphate and phosphate, and the potash salts and magnesium citrate are superfluous Brimstone is obsolete.

Among the diuretics, caffein, digitalis, potassium acetate, and spirit ether nitrosi are by far the most popular and effective drugs Potassium nitrate has fallen into disuse on account of its irritant action and the toxic effects of large doses Sparteine and cubebs are seldom used and should be held superfluous

Sodium iodide is quite unnecessary, potassium iodide is the more stable and widely used.

The benefits derived from so taking time and trouble to limit our Materia Medica are not only financial, but they lead the way to better teaching clearer thinking, and greater possibilities of specific treatment.—*The China Medical Journal*, November, 1921

Diagnosis and Treatment of Cystitis

A DISCUSSION on the diagnosis and treatment of cystitis took place at the Eighty-ninth Annual Meeting of the British Medical Association, held at Newcastle-on-Tyne, July 1921

Two papers were read The first was by J F Dobson, M S, F R C S, and the other by Alfred Parkin, M.D, etc Dr J F Dobson made the following remarks —

In only comparatively few cases the diseased process is limited to the bladder or originates in the bladder, what really obtains in the majority of the cases is an infective condition of the whole urinary tract, and so one is not justified in confining his attention to the investigation and treatment of the bladder alone. Many cases diagnosed as cystitis owing to frequency of micturition and other vague symptoms, have been found to contain no trace of pus or organisms So the first essential is to determine whether organisms are present in the urine. Frequency of micturition may be due to chemical alterations in the urine—*e g*, high specific gravity, high colour, strongly acid re-action, and the appearance of oxalate crystals The condition is usually completely relieved by the ingestion of large quantities of water with alkalies

Diagnosis—The following are the steps to be carried out —

(*i*) *Examination of the urine, both chemical and bacteriological*—For bacteriological examination the attending practitioner should preferably himself take a culture specimen handling the catheter with a pair of sterile forceps after a preliminary wash-out of the urethra with sterile water, and in addition to the disinfection of the meatus and surrounding parts, it is advisable, in the female, to pack all around the orifice with sterile gauze before the catheter is inserted He should receive the last portion withdrawn in a sterile vessel and have it examined as soon as possible, the presence of stricture is also felt at the same time. In addition to bacteriological investigations, the same urine is utilised for a thorough chemical analysis, the presence of fragments of tumours, cells, blood, pus, etc., being noted at the same time.

(*ii*) *Rectal examination*—The next step is a rectal examination in the male and a rectal and vaginal examination in the female. In this way one excludes adenomatous or malignant enlargement of the prostate, subacute or chronic prostatitis or prostatic abscess (determined by massage of the prostate and microscopic examination of the fluid expressed), vesiculitis, growth fissure, fistula, hæmorrhoids, etc., in the male, and uterine enlargements or displacements adnexal disorders, cystocele, etc, in the female The presence or absence of urethritis is also noted

(*iii*) *Abdominal examination*—We shall search for distention of the bladder, tenderness on suprapubic pressure, abdominal tumours, tenderness over the appendix, appendix abscess, fæcal accumulation, etc. The kidneys will require special examination for prolapse, tenderness, enlargement etc.

(*iv*) Having found nothing or having found some abnormality that does not sufficiently explain the patient's condition, an X-ray examination of the whole urinary tract should be made to exclude calculi.

(*v*) *Cystoscopy*—Our next step should be a cystoscopic examination, preceded or not, in the male, by a urethroscopic examination if considered necessary This is an important, perhaps the most important, part of the investigation. The first step is to ascertain the presence of residual urine. We may find at once on introducing the cystoscope the explanation of the patient's symptoms —calculus, tumour, enlarged prostate, foreign bodies, ulceration of the bladder, tuberculosis, etc. Changes in the ureter orifices will be noted. But we may find nothing in the bladder, ureteral catheterization, collection of urine from both kidneys, its complete examination, including culture, will then be carried out. In certain cases a pyelogram will be necessary to determine the presence of renal pelvic retention. The evidence of definite renal disease being obtained, further investigation into the functional capacity of the kidneys, the amount of blood, urea-nitrogen, etc., will then be necessary

The examination should not be considered complete until the general condition of the patient has been most completely considered, the presence of pyorrhœa,

"We feel that we ought to state frankly, however, that we fear that the opportunities would be less valuable to the young men than they might imagine The conditions of missionary life are often trying The hospitals, while usually having an immense medical and surgical practice, have an equipment that would be decidedly disappointing to a young man accustomed to the large and costly plants in the United States The house accommodations might be inconvenient and the climate debilitating Moreover, such a man would not know the language of his patients, and would therefore be wholly dependent on an interpreter for communicating with them"

THE NEED OF MEDICAL MISSIONARIES

Dr W H Forsyth, a medical missionary in Korea, writing of the need of regular medical missionaries (not assistants), says

"The work is hard and the salary varies from $600 for single men, to $1,200 or $1,500 for married missionaries It is a wonderful opportunity to reach and relieve thousands of suffering people who are without help, to train natives to take up the practice of medicine and to win many to the Christian faith It is a work that deserves the active interest and support of all Christian physicians"

He sends a list of medical missionaries needed by various boards It does not claim to be a complete list, but we print it because of its connection with the subject under discussion

AMERICAN BAPTIST UNION

Three for various fields—Rev F P Haggard Secretary Ford Building Boston

BOARD OF FOREIGN MISSIONS OF EVANGELICAL LUTHERAN CHURCH

One for Liberia Africa—Dr Marion J Kline Secretary 21 W Saratoga Street Baltimore

GENERAL CONFERENCE OF FREE BAPTISTS

One (married) for Bhimpore India—Mr Harry S Myers Secretary Hillsdale Mich

BOARD OF FOREIGN MISSIONS OF METHODIST EPISCOPAL CHURCH

One for Good Samaritan Hospital Guanajuato Mexico one (unmarried) for Foochow China.—Dr H K. Carroll Secretary 150 Fifth Avenue New York

BOARD OF FOREIGN MISSIONS OF PRESBYTERIAN CHURCH IN U S A.

Two for Korea two for China—Dr Stanley White Secretary, 156 Fifth Avenue, New York

BOARD OF HOME MISSIONS OF PRESBYTERIAN CHURCH IN U S

One for work among Navajo Indians—Dr Charles L Thompson Secretary 156 Fifth Avenue New York.

DOMESTIC AND FOREIGN MISSIONARY SOCIETY OF PROTESTANT EPISCOPAL CHURCH

Three for Wusih Wuchang and Shasi China one for Japan—Mr John W Wood Secretary 281 Fourth Avenue New York

BOARD OF FOREIGN MISSIONS OF REFORMED CHURCH IN AMERICA.

One for Amoy China Dr H N Cobb Secretary 25 East Twenty second Street New York

BOARD OF FOREIGN MISSIONS OF REFORMED CHURCH IN U S

Two for China—Dr A R Bartholomew Secretary 1306 Arch Street Philadelphia

UNITED EVANGELICAL CHURCH MISSIONARY SOCIETY

One for Hunan China—Rev B H Niebel Secretary Harrisburg Pa

SUDAN UNITED MISSION

One for the Sudan West Central Africa—Mr Charles B Kurtzbalz, Secretary 329 East Walnut Lane Germantown, Philadelphia For missionary work in general address the Student Volunteer Movement 3 West Twenty ninth Street, New York City

MEDICAL MISSIONARY WORK IN CHINA.

Apropos of this subject, a letter received from Dr Charles F MacKenzie, at one time located at Nashville, Tenn, now at Kinhwa, China, where he is stationed as a medical missionary, is of interest We quote

'This is a great country for medical work I am the only foreign physician among 300,000 people, there being no other nearer than 200 miles The chances for a young man just out of medical school are great, and the experience he would gain here would be far ahead of any chances he would have at home The great drawback is the language, of course One has to have that before he can do much, as no Chinese speaks English where I am The ordinary Chinese doctor knows nothing of surgery and very little medicine Santonin is our mainstay, as about 85 per cent of our Chinese patients are full of ascarides Smallpox is considered a matter of course, about the same as we consider a child having measles The people around us inoculate the children with smallpox scabs in the nostril, hence many children are blind from this practice'

In this connection also we refer to an interesting and elaborately illustrated article in the December *World's Work*, which describes the work done in mission hospitals

An Antivivisection Play, in Three Acts

NEW YORK, Feb 20, 1908

To the Editor —The scene of the first act is laid in Carnegie Lyceum, in New York City, where there was recently an enthusiastic gathering Dinners, of which roasted or broiled meats (animals, by the way, almost invariably meet tragic deaths) were a part, were being comfortably digested, so that everybody was in a position to take an amiable interest in the proceedings The great majority in this audience were women, who wore the plumes of slaughtered birds in their hats, and (it being evening) pet dogs, whose tails had been docked, and whose ears had been clipped, were reposing undisturbed at home The lady president of the Antivivisection Society (in alliance with the International Antivaccination Union) spoke with the precision of statement so characteristic of the feminine mind The great difficulty in getting started in this country, she declared, is because, "while no doubt 50 per cent of the medical profession are to day at heart opposed to vivisection, its leaders in New York, confident in their eminence and power to punish, have sent out a practical prohibition to all physicians that they should not approve or sustain in any manner any movement toward a restriction of vivisection" Several public spirited gentlemen were on the platform One among these, in terms conspicuous for man like temperance of expression, stated that those medical experimenters who vivisected animals were "virtuosos of agony, in whom curiosity, vanity or scientific zeal has supplanted humanity, and to whom harmonies or discords of agony or long drawn cadences of torture struck from quivering nerves are music." One clergyman contended that the practices condemned are continued for "the purposes of commercialism, to obtain antitoxins, which have not yet proved their efficacy, and in some instances have been known to have increased disease instead of decreasing it" Another maintained that vivisection is "contrary primarily to the law of God," this clergyman would no doubt a generation ago have denounced the administration of chloroform to women in labor, on the basis of some scriptural expression The Rockefeller Institute was especially stigmatized and "resoluted" against as being "the principal theater of vivisection operations in this part of the world to day" A bill was read, which had been introduced in the legislature at Albany, and the assemblyman who was responsible for it naively observed that in passing it the state would incur no expense, for the Antivivisection Society and the Humane Society had offered to provide the salaries of the inspectors proposed in the bill

The second act of this play takes place in the city of New Brunswick, N J, where the two villains of the cast, by name Dr H H Janeway and Dr E I Cronk, have been laboring under the obsession that without animal experimentation medicine would be "but a savage art—not even the shadow of the present science of cure and prevention" Being desirous of perfecting an operative procedure for gastric cancer and tuberculosis, they have done tentative operations on animals, and have also, in a spirit equally unscientific and calloused, removed a lobe of one lung from a dog named Pete The sufferings which a veracious lady of that city had alleged this dog was enduring have divided that generally peaceful and sane community into two camps A somewhat Gilbertian warfare has resulted, most of the contestants, especially the feminine participants, "did not know what it was all about anyway" A superb strategic move was the arrest of Drs Janeway and Cronk on charges of cruel usage of the dog Pete, made by the aforesaid tender hearted lady the miscreants happily regained freedom when bail of $300 for each was paid Pete, because of whose agonies the arrests were made, was sought for in his usual comfortable bunk in Dr Janeway's barn But the martyr, who "for the sake of science had given most of himself away" was absent, he (or what remained of him) was found near by, engaged, with

that all cases of persistent and recurrent cystitis were secondary, and search must be made for prostatitis, diverticulum of the bladder, bladder growths, or for pyelitis, by rectal examination, cystoscopy, and catheterization of the ureters

In chronic cases, a short intensive course of urotropin, repeated at intervals, would do more good than prolonged administration of small quantities He believes that urinary antiseptics should be wisely used as a prophylactic agent before all operations on the pelvic organs, and before all bowel operations They should be avoided altogether in acute inflammations of the urinary tract, and reserved for the subacute and chronic infections—The *B M J* August 27, 1921

Tuberculosis Infection and Tuberculous Disease

HAMBURGER (*Wien klin Woch* September 29th 1921) states that the discovery of droplet infection by Flügge is the most important advance in infectious disease since the classical work of Pasteur and Koch Infection takes place by coughing, speaking, and in the case of tuberculosis only within the ordinary distance for conversation (1 to 1½ metres) There is no evidence that infection takes place in man by inhalation of dust. Everything, on the other hand, points to direct infection from man to man Compared with tuberculous infection, tuberculous disease is comparatively uncommon though it is impossible to determine at present the relative frequency Hamburger states that a short time ago his son, aged 13 years developed phlyctenular conjunctivitis, which healed in about a fortnight, the general condition being unaffected As Hamburger had been in the habit for many years of testing his children with tuberculin every six months, and the boy had always given a negative réaction before, the eye disease which was accompanied by a positive reaction, could undoubtedly be attributed to a recent turberculous infection As the other four children still gave a negative reaction, it was pretty certain that the infection was derived from some person outside the family Hamburger therefore recommends that in combating tuberculosis special attention should be paid to prophylaxis against extrafamilial exposure to infection.

Pernicious Anæmia

THE gastric secretion in the fasting contents and after an Ewald test breakfast was analyzed in 107 of the 143 cases of pernicious anæmia In only three cases was free hydrochloric acid found at any time in the gastric secretion, and in two of these cases the diagnosis of pernicious anæmia was questioned These figures, then, show a persistent anacidity in 104 or 99 per cent. of cases of pernicious anæmia Pepsin was tested for in a small number of cases and was always found lacking In five patients who showed varying amounts of free hydrochloric in the gastric secretion, operation, post-mortem examination or subsequent findings practically ruled out pernicious anæmia A distinct familial incidence was discovered in these 143 cases In nine patients there was a definite family history of pernicious anæmia in some other member of the family In two others there was a history of death from an unknown type of anæmia Forty-one had a family history of tuberculosis or cancer or of both, and as these diseases are easily confused with pernicious anæmia, these figures may well include cases of anæmia—*Jour A M A* September 3, 1921 from *John Hopkins Bulletin* Baltimore, August, 1921, *32*, No 366

The Past, the Present and the Future of Patients with High Blood Pressure

VAQUEZ AND LECONTE analyze their experience with over 1,000 cases of high blood pressure during twenty years Over two-thirds were men, and all were over 18 Among the facts thus brought out is the prognostic importance of the water test When the elimination of water after test ingestion was retarded, all in this group died within a few months to a year, or their condition had grown worse during the one to three years afterward, only one failed to show any aggravation In the group with normal response (twenty-three out of the forty tested), there has been no aggravation during the year since except that two have died from cerebral lesions, the others have had no disturbance from this cause during the several years to date. This induced diuresis test is the more instructive as it is independent of albuminuria and azotemia The high blood pressure at the menopause or with fibromas or after ovariotomy is remarkably benign, and often subsides spontaneously As the prognosis depends in general on the state of the heart, the symptoms from failing compensation are especially baneful, particularly the permanent acceleration of the pulse (ninety-three cases) as a sign that the left ventricle has become unequal to its task, or sporadic or bunched extrasystoles (141), gallop sound (121) functional mitral insufficiency (153), and finally total arrhythmia The latter was evident in forty-four cases in which since that time the blood pressure has returned to normal The retrospective diagnosis in this latter group was confirmed by radioscopy, which is always useful in cardiovascular cases—*Jour A M A* September 3 1921 from *Paris Medical*, July 2, 1921, 11, No 27

Drugs in Summer Diarrhœa

SINCLAIR condemns the misuse of opium, calomel, and castor oil in these cases Where the symptoms and signs point to an irritation rather than to an inflammation of the intestinal tract, a prompt and energetic use of castor oil, 1 to 4 drams, according to the age of the child, or calomel in divided doses from 1|10 to ¼ of a grain at intervals of one half hour to one hour, until 1 grain has been given, followed by calcined magnesia from 5 to 30 grains of milk of magnesia, from ½ to 1½ drams is indicated and this medication should be followed by a period of temporary starvation Occasionally, either the subcarbonate or the subgallate of bismuth may be required for a short period in doses of from 10 to 20 grains every three hours or 1 dram doses of chalk mixture every two hours may suffice In the inflammatory or infectious types the preliminary use of castor oil, or calomel followed by magnesia, is indicated and should precede brief periods of starvation. In the milder of these cases chalk mixture may be employed with advantage while the more severe cases call for the administration of bismuth subcarbonate or subgallate in full doses If these cases do not promptly show an abatement of the diarrhœa and especially if there are evidences of excessive persistalsis and pain, opium in the form of camphorated tincture from 5 to 15 drops Dover's powder, ½ grain, or deodorized tincture of opium is indicated In case of tenesmus the starch enema with 5 to 10 drops of tincture of opium to the ounce of starch water is usually efficient in relieving this distressing symptom If stimulation is needed, the best drugs are caffein, sodium benzoate from ½ to 1 gram tincture of digitalis from ½ to 1 minim, and brandy from 5 to 20 minims well diluted in water In a threatened collapse, camphorated oil, hypodermically is generally employed To anticipate and prevent acidosis, administer sodium bicarbonate in 15-grain doses every three hours routinely to all infants who are more than mildly ill with inflammatory or infectious forms of gastro-intestinal disease Anæmia calls for Fowler's solution or the lactate or citrate of iron, or the green citrate of iron—*Jour A M A* September 10, 1921, from *New York Medical Journal*, August 3, 1921

Intravenous Iodine

DR A BAYLEY DE CASTRO, of Port Blair, is an advocate of intravenous iodine Recently he

tion of huckleberries. Opium should be given only in very small doses or in a suppository. Constipation is seldom observed after a gastroenterostomy, but if it occurs it should be combated with stewed prunes, whole wheat bread, buttermilk, cream and sugar of milk, with mild laxatives as needed and oil enemas. Patients should be impressed beforehand with the fact that the operation is not the last resort in treatment of their chronic stomach trouble, but quite the contrary. It aims to lay the foundation on which rational dietetic treatment will lead to a permanent cure.

Electric Treatment of Aneurisms of Aorta—Brazilian Method.—A. de Freitas states in the *Brazil Medico*, Nov. 22, 1907, that aneurism of the aorta seems to be on the increase in Brazil. Syphilis, alcoholism and the food seem to be the principal causes, especially an excess of meat and adulterations in articles of food. He reports 31.8 per cent. cured, 50 per cent. materially improved, and only 18.1 per cent. mortality in an experience with 22 cases during the last five years, all treated with what he calls "positive cutaneous voltaization" or the "Brazilian method." This has a marked local action on the lesion, modifying local conditions and relieving the symptoms. The value of this method lies in the properties of the anode. The anode has a retracting action on the walls of the dilated vessel, and a coagulating action on the fibrin of the blood as well as an action on the vasomotors, improving the nourishment of the parts. This same coagulating action of the anode has proved useful in treatment of hemorrhage from uterine fibromas and hemorrhagic metritis, utilizing the electrolytic introduction of metallic ions into the tissues. It has also proved effectual in inducing the production of a retractile eschar in treatment of angiomas and vascular nævi. The mechanism of the cure is the same in all these processes, except that it is more intense in the aneurism. The passage of the current causes an inflammatory reaction which induces a deposit of fibrin after the primary irritative coagulation has ceased. This phenomenon can be readily recognized by the subsidence of the tumor. As the aorta decreases in size the symptoms resulting from compression of other organs subside with it. He has found ionization with iodin or zinc an excellent aid in the treatment as also auto conduction or D'Arsonvalization. His later experience has amply confirmed his first favorable results from the use of a current of relatively large quantity under medium or feeble tension—voltaization, as described in THE JOURNAL, Nov. 21, 1903, page 1310. He finds aneurism of syphilitic or alcoholic origin the hardest to cure.

Plea for Scientific Cooperation Between Physicians to Follow Up Cases.—I. Boas of Berlin has been preaching the urgent necessity for some arrangement between physicians which would make it possible to keep track of the course of the more interesting chronic affections as the patients wander from place to place and consult one medical man after another. The often constant change of physicians causes the case to be lost to science with all its obvious lessons in regard to the course of the affection, the clearing up of diagnostic problems, the success of various therapeutic measures and the autopsy findings. The value of a case to science is comparatively insignificant now on account of the gaps in our knowledge concerning it. He pleads for a more exalted ethical appreciation of the single case. Not only the patient himself but the physician and entire suffering humanity have an interest in knowing the course of the affection, the results of treatment and the outcome. The physician should not regard the patient as "my case" but as belonging to the totality of physicians, to the profession at large. Patients should be instructed to report later to the physician or reply to letters of inquiry. Still more important is the cooperation of physicians. They should make a point of replying to an inquiring physician with careful and minute information. A printed form might be useful for the purpose with blanks for diagnosis, course, duration, treatment used, its results, outcome and eventual operative and autopsy findings. Boas did not propose any means of setting the desired mechanism to work, but merely that a committee should be organized to discuss ways and means to bring the entire medical world thus into closer touch. His talk on the subject is reproduced in the Berlin letter in the *Münch. med. Wochenschrift*, November 12.

Discuss Sanitary Themes.—The Proceedings of the Seventh Annual Conference of Sanitary Officers of the State of New York, held in Buffalo, Oct. 16 to 18, 1907, form an interesting volume containing much useful material. The presidential address of Dr. Porter has already (THE JOURNAL, Nov. 16, 1907, p. 1715) been abstracted. Other papers were "The Dissemination and Control of Tuberculosis as Illustrated in the Bovine Species" by Veranus A. Moore, M.D., "The Early Diagnosis and Treatment of Pulmonary Tuberculosis," by John H. Pryor, M.D., "The Duty of the State in the Prevention of Tuberculosis," by Edward Devine, M.D., "Labor Legislation in Its Relation to Public Health," by Adna F. Weaver, Ph.D., "Sewage Disposal for Institutions in Small Communities," by Theodore Horton, C.E., "The Laws Relating to the Pollution of Streams," by A. H. Seaman, Esq., "Sanitary Inspection of Wells and Their Surrounding," by L. M. Wachter, "Practical Points on Quarantine," by John T. Wheeler, M.D., "The Detection of Communicable Diseases in Schools as a Part of Medical School Inspection," by H. D. Schmidt, M.D., "The Prevalence of Physical Defects in School Children," by Harlan P. Cole, M.D. 'The Detection of Defects of the Eye, Ear, Nose and Throat," by H. C. Schenck, M.D., and finally, a symposium on "What Health Departments Can Do to Secure Pure Milk," in which Dr. Thomas Darlington urged the inspection of dairies and farms, Dr. Ernest Wende championed the permit and license system, Dr. Henry R. Hopkins spoke of the "Tell Tale Milk Register," Dr. George W. Goler advocated educational methods, and Dr. Ellis M. Santee described the advantages attending the use of the Score Card System. The papers are all eminently readable and well marshaled presentments of their respective subjects.

Treatment of Sciatica by Perineural Injections.—A. Burn of Vienna announces in the *Wien. Med. Presse*, Nov. 17, 1907, that he has found local injection of a fluid extremely effectual in the cure of chronic peripheral sciatica. He has occasion to treat from fifty to sixty patients with sciatica every year, and since 1904 has been systematically applying these perineural injections. He ascribes the benefit to the mechanical distension of the parts, and thinks it is important to inject the fluid in a constant stream and under considerable pressure. Physiologic salt solution is injected through a needle cannula from 7 to 8 cm. long, inserted at the point of the inner aspect of the thigh where the long head of the biceps femoris is crossed by the gluteus maximus. The patient must be in the knee elbow position. The cannula is introduced for half its length, and is then lowered a little and pushed in for 3 or 3.5 cm. farther. This brings the tip to the sciatic nerve at the point where it is most easily and safely reached without fear of injury of the soft parts, as he learned from experiments with colored fluids on the cadaver. The injected fluid enters the perineurilemma. When the needle reaches the sciatic nerve the leg twitches or there is sharp pain or paresthesia in leg and foot. The tube connected with the syringe holding just 100 c.c., is attached to the cannula and the fluid is injected. The patient lies down for a half hour or so, and then goes home and rests for the next day or two. In a few cases the neuralgia recurs, requiring from two to four injections before the patient is entirely cured. In 62.6 per cent. of 67 cases the cure was complete, in 20.8 per cent. there was marked improvement, and in 8.9 per cent. no effect was apparent.

The Fissure Pain in the Chest.—Sabourin calls attention to painful points corresponding to the fissures between the lobes of the lungs, and describes a number of cases to show their diagnostic value. His first article on the subject appeared in the *Revue de Méd.* for April, 1907, and later experience has confirmed his assertions. The most frequent painful point of the kind is near the spine close to the third and fourth ribs, accompanying tuberculous pleuro-pulmonary lesions at the edge of the large fissure separating the upper and lower lobes of the lung. Another point is back of the axilla, at the head of the small horizontal fissure, but a lesion anywhere over the entire surface of the fissures may be the cause of a

Wednesday—
Breakfast tea or coffee, half a pint, bread-and-butter or toast.
Noon beef-tea, half a pint, bread and pudding, no fruit.
Tea tea, half a pint, bread-and-butter
Supper beef-tea or cocoa, half a pint, bread.
Thursday—
Breakfast, 5 a.m tea, half a pint, two pieces of bread-and-butter
11 a.m beef-tea, half a pint.
The mouth should be washed and the teeth brushed before operation

Note—Eggs are not given for two days before operation

Diet after operation—On the day after operation the same diet as the day before is given, afterwards ordinary diet with fruit and eggs may be given

After-treatment—

First day—Renew outer dressing only if there is no bleeding If the patient does not complain of the tube giving discomfort, it is kept in for three days—it helps to keep down external tags (The tube is ½ in in diameter and 3 in long) If the patient is not able to pass urine the tube is removed after fourteen hours

Second day—Change all dressings and irrigate with H O (vol 10), dress with a wool swab prepared in mercury perchloride 1 in 2,000, outside dressing pad of wool Keep pressure with T bandage.

Third day—Evening Olive oil injection, 5 oz. (sterile), to be retained, dress always as above

Fourth day—Give aperient, ol. ricini 1 oz If when the bowels have acted there is no bleeding, the patient starts daily baths

Clamp and cautery and Whitehead operations wait one or two days longer for aperient. Whitehead cases are dressed and irrigated every four hours—gauze and flavine.

If a patient develops ulceration, four-hourly wash-outs of normal saline are given, then injections of flavine vaseline 1 per cent. If there is only slight ulceration, ordinary dressings are used with the addition of iodex or iodoform suppositories twice a day If the ulceration is bad, the patient is isolated

Choice of operation—The ligature operation *in the* absence of acute inflammation is suitable for all cases, and because of its simplicity should be the operation of choice in the great majority of cases Clamp and cautery is an admirable operation in selected cases, and when the case is a suitable one for this operation it has, I think, decided advantages over the ligature operation. It is bloodless, and pain after operation is less than after ligature or Whitehead. The average length of stay in hospital is shorter than after the ligature operation Contraction never occurs and, as I have shown, all post-operative complications are less *prone to occur* than with the ligature or the Whitehead operation. Contra-indications are as follows —

1 When hæmorrhoids are partly covered by *skin the* operation, unless combined with a cutting operation is unsuitable consequently a third or more of the cases are ruled out.

2 When the hæmorrhoids exceed three in number or cannot be grouped into three clamps (or four at most) it is not suitable, partly from manipulative *reasons*, and partly because there is not enough mucosa available in the circumference of the *anal canal to allow* more than three (or at the most four) hæmorrhoids to be clamped at one and the same time. To apply a clamp in one place after the cautery has been used in another, presents obvious dangers

The operation is especially suitable

1 In strangulated cases, or cases of prolapse with inflammation, when operation cannot be delayed for fear of strangulation.

2 For patients who require to get back to their work as quickly as possible.

3 For the aged, debilitated, anæmic, and very nervous people, who require to be spared as much pain and loss of blood as possible.

Against the operation is the fact also that it is less fool-proof than the ligature operation. An inefficient clamp and cautery operation might be followed by violent recurrent hæmorrhage (though I have no knowledge of any such case occurring), and in consequence is not, I think, so safe an operation for private practice, at any rate outside a nursing home. Stout ligatures give a greater sense of security to the surgeon at a distance As regards *secondary hæmorrhage*, figures show that the clamp and cautery operation is no more liable, if anything less liable, to secondary hæmorrhage than the ligature operation The clamp and cautery operation, however, is more prone to produce large tags

The Whitehead operation is a radical method which gives excellent results in experienced hands For the great majority of cases, however, it is an unnecessarily severe operation, involving, as it often does, considerable loss of blood. Great care is required in the after-treatment to avoid anal stenosis or extroversion of mucosa with a moist anus, which is often followed by *pruritus ani In some* instances incomplete control both of flatus and fæces followed the operation, the result, either of sepsis or imperfect after-treatment producing a fibrous ring round the anal margin which does not readily yield to the action of the sphincter

In the discussion that followed, Dr Louis J Hirschmen (Detroit, U S A) said "In our personal practice, we operate upon practically all cases of hæmorrhoids fissures, polypus, and all other kindred diseases of the rectum and anus under local anæsthesia, unless there is some very decided reason for using general anæsthesia. About 25 per cent. of our fistula cases are operated upon also under local anæsthesia.

In practice novocain is employed in a strength not exceeding one half or one per cent., and the quantity of solution used is governed by the individual case

The type of operation used by almost all the American proctologist is some modification or other of the incision and ligature method. The use of the clamp and cautery is restricted to those cases where there is a great amount of prolapse, for the cicatricial contraction following a burn is of distinct advantage in the ultimate result following an operation for prolapse.

We do not use carbolic acid at all in our practice. We get very good results from the employment of a 5 to 10 per cent. solution of quinine-urea hydrochloride. *Each hæmorrhoid* is injected to mild distension with *this solution*, and is re-injected at the end of five to seven days if necessary

This solution causes a deposition of fibrin around the blood vessels of the hæmorrhoids, which, becoming organized, shuts off the circulation to such an extent that the mass rapidly atrophies If one is particular to inject the solution deeply into the tumour, and not to deposit it directly into or beneath the mucous membrane, sloughing is never encountered The average length of time for a hæmorrhoid patient to be entirely relieved is from three to four weeks

The Whitehead operation has been mentioned by two or three of the preceding speakers. We never employ it, because we believe that, no matter how severe the case, there is always a better way of disposing of the redundant mass by elliptical excision. The resulting scars are always in the longitudinal axis of the bowel, and the functional result is ideal

Sir Charles Ryall, C.B.E. (London), said that no operation gave such consistently satisfactory results in all variety of cases as ligature. Whitehead's operation frequently gave unsatisfactory results even in the best hands by *interfering with the* sensitive skin of the anal canal, sometimes causing impairment and even loss of anal sense, and this was a severe disability With regard to interstitial injections, the *risk is tissue* necrosis causing severe hæmorrhage.

Mr J P Lockhart-Mummery (London), the president, thought it was certainly time that the obituary of the Whitehead operation should now be written. He agreed that, as a general routine, a ligature operation was the best, but that the clamp and cautery was a

Reber W Ocular Headache April 15 1905 p 1221
Drein W C Headache April 15 1905 p 1220
Ross Calcium Salts in Headache (abstr from *Lancet* Jan 20 1906) Feb 17 1906 p 544
Saundby Headaches of Renal Origin (abstr from *Practitioner* July 1906) Aug 11 1906 p 463
Hammond, P Headache with Aural Disease Nov 10 1906 p 1523
Walton G L Constitutional Headache Nov 10 1906 p 1524
Davenport F H Headache with Pelvic Disease, Nov 10 1906 p 1525
Gould G M Headache and Evestrain Nov 10 1906 p 1531
Williams Headache (abstr from *Clinical Jour*), Feb 23 1907 p 729
Thoms S W S Relation of Headache to Evestrain, March 23 1907 p 1009

LITERATURE ON PSYCHOTHERAPY

——— ILL Feb 10 1908

To the Editor —Please give a list of some of the books held in esteem by the medical profession on the subject variously known as 'suggestive therapeutics psychological medicine applied hypnotism' etc This subject has apparently been so monopolized by the charlatans and impostors until recent times that any one interested in the subject to day is at a loss to choose between the trash and the worthy contributions A C P

ANSWER.—The following being more or less text books of psychotherapy are standard works on the subject

Tuckey Psychotherapeutics G P Putnam s Sons 29 West Twenty third St New York $3 00
Milne Bramwell Hypnotism Its History and Practice Alex Moring London.
Dercum Rest, Suggestion Mental Therapeutics a volume of S S Cohen s System of Physiologic Therapeutics P Blakiston s Son & Co 1012 Walnut St. Philadelphia
Quackenbos Hypnotic Therapeutics Harper Bros Franklin Square New York $2
DuBois Psychic Treatment of Nervous Disorders Funk & Wagnalls Co 44 East Twenty third St New York $3 00
Forel Hypnotism or Suggestion and Psychotherapy Trans by H W Armit Rebman Co 1123 Broadway New York

The following works also are of value as bearing on the principles involved

Sidis Psychology of Suggestion a Research into the Subconscious Nature of Man and Society D Appleton & Co 436 Fifth Ave New York
Schofield Force of Mind or the Mental Factor in Medicine Blakiston s $2 00
Schofield The Unconscious Mind Funk and Wagnalls $2
Schofield Unconscious Therapeutics Blakiston s $1 50
Monro Handbook of Suggestive Therapeutics Applied Hypnotism and Psychic Science Mosby Medical Book Co 2313 Washington Ave St Louis $3

Before engaging in the practical study of the subject a perusal of Schofield s Force of Mind will be found an excellent preparation

BOOKS ON PRACTICAL DIAGNOSIS AND TREATMENT

PISGAH MD ———

To the Editor —What books can you recommend as practical guides for clinical diagnosis and treatment?

GEO C BICKNELL M D

ANSWER —1 Forchheimer Prophylaxis and Treatment of Internal Diseases D Appleton & Co 436 Fifth avenue New York $5 00 This is an excellent work in regard to treatment combining comprehensiveness and detail in an unusual degree

2 Fenwick Samuel Medical Diagnosis J & A. Churchill London price about $1 75 This book was devised for the use of senior students at the bedside It takes the most prominent feature and by differentiating phenomena classifies the conditions in which that might occur into groups It then excludes all groups but one and finally all members of that group but one thus arriving at the diagnosis It will for all time be a first class work in regard to a large part of internal medicine but unless there is a recent edition it will be somewhat out of date in regard to the more recent advances in certain diseases particularly those dependent on micro-organisms

3 A companion hand book on medical treatment by the same author in the same series The same remark about recent edition applies here but the author s admirable method will still keep the book in the forefront of valuable works owing to the remarkable systematization that characterizes it

4 Cailie Differential Diagnosis and Treatment Appleton $6 00

5 v Jaksch 'Clinical Diagnosis J B Lippincott Co, Washington Square Philadelphia $7 50

VEGETABLE FARMING BY CONSUMPTIVES

——— ARK Feb 11 1908

To the Editor —Would there be any danger to the consumers of vegetables produced by consumptive labor in a colony hygienically conducted It is intended to cultivate a large tract of land using such patients as would be able to do the labor thereby affording necessary outdoor exercise and at the same time enabling the worthy needy to help defray the cost of board and treatment In this way it is believed that a great deal of good could be done and the undertaking made lucrative to the stockholders

Respectfully J P B

ANSWER —The emphasis now being laid by experimenters on the possibilities of alimentary tract infection in tuberculosis points to the need of great caution in employing consumptive patients for handling or preparing articles of food. Under ordinary conditions the hands of tuberculous patients must not infrequently become soiled with tubercle bacilli and the danger in handling fruits berries or vegetables that are eaten uncooked can not be ignored Furthermore it is by no means true that tubercle bacilli in large masses of sputum will be quickly destroyed by external agencies In fact there is reason to believe that they might survive for a long time in soil In any event there would probably be a prejudice more or less well founded against articles of food known to have been handled by consumptive patients Again the question of exercise is one that should be determined with absolute regard to the welfare of the individual patient. The trend of opinion in the treatment of tuberculosis is distinctly toward rest rather than exercise for many patients and it may be questioned whether the interests of patients in general would be conserved by measures that would make their labor lucrative to the stockholders.

TAMARAC

BELT MONTANA Feb 17 1908

To the Editor —Please give the botanical name of tamarac, the preparations derived from it their properties uses and doses

C R

ANSWER —Tamarac is the common name of *Larix americana* the American larch of the natural order of *Coniferæ* This is the *Pinus pendula Pinus microcarpa* and *Abies americana* of various botanists and is known by the several names of black larch American larch hackmetack etc It is not mentioned in the 'National Dispensatory the United States Dispensatory or standard works on materia medica According to King s American Dispensatory an eclectic publication a decoction of the bark is said to be laxative tonic diuretic and alterative and is recommended in obstructions of the liver rheumatism jaundice and some cutaneous diseases A decoction of the leaves has been employed in hemorrhoids hemoptysis menorrhagia diarrhea and dysentery and externally in cutaneous diseases ulcers burns etc In dropsy combined with spearmint, juniper berries and horseradish it has proved valuable The dose of the decoction is from two to four fluid ounces from two to four times a day

PASTEUR INSTITUTIONS IN THE UNITED STATES

The Pasteur Institute of Paris is asking for a list of the Pasteur institutes for the treatment of rabies in the United States and Canada with their location and names of officers Will such institutions write us giving a list of their officers directors etc?

The Public Service

Army Changes

Memorandum of changes of stations and duties of medical officers U S Army week ending Feb 22 1908

Peed G P asst surgeon will proceed on or before the expiration of his present leave of absence to Fort Ontario New York for duty

Flagg C E R asst surgeon resignation as an officer of the Army has been accepted by the President to take effect April 10, 1908

Dale F A asst surgeon ordered to Fort Lincoln N D for duty

McAndrew I H asst surgeon ordered to Fort Slocum N Y for duty

Hanner J W asst surgeon granted leave of absence for two months and seven days from Feb 19 1908

Siler J I asst surgeon will proceed on or before expiration of present leave of absence to Fort Des Moines Iowa for duty

Craig C F asst surgeon advanced to rank of captain to date from Feb 18 1908

Gray W W., deputy surgeon general granted leave of absence for one month

Lowe T S contract surgeon relieved from duty in the Philippines Division and ordered to San Francisco for further orders

Wells F M contract surgeon returned from temporary duty at Fort D A Russell Wyo to his proper station Fort Robinson Neb

A few cases of enlarged tonsils also gave a vague history of rheumatism and their heart was not perfectly normal However, a conservative view of these heart cases was taken in the absence of definite lesions and they were classed under "functional heart disease"

EXERCISE.

9 The consideration of enlargement of tonsils would be incomplete without a reference to the capacity of expansion of chest and exercise A boy with sportive tendencies was usually free from this defect, as he was utilising the natural gifts of light and air to a greater extent This was noticed particularly in one school where the smaller boys had greater expansion than the average for their age, as the games were under the direct patronage of the teachers, which stood in marked contrast to the other schools where the bigger boys were not in the habit of paying a visit to the fields

SPLEEN

10 The cases of the existing enlargement of spleen in schools were to the extent of 1 5 per cent, but there were many who had had a previous history of the spleen with malaria (or kala-azar in a solitary instance) And this was remarkable in the Purnea district, where the spleen cases were three times more numerous There a good many boys had shaken off the superfluous spleen with the fever, but the fever had left its evidence in "anæmia" which was 5 per cent., the average being 3 5 per cent. There was scarcely any case of anæmia in which any other cause, *e g*, the hookworm "disease" could be suspected. The hookworm "infection" might have been present, but no case of profound anæmia was attending the schools, although in some cases the anæmia had given the heart cause for a "functional murmur"

VISION

11 Forms for defective vision were issued to the extent of 8 5 per cent and this came next to the tonsils There was a slight indication of the eye defects increasing in frequency with the age. It was the boys of the higher classes mostly who came up for the testing of the eyes The school with an agrarian population, already referred to, was particularly bad for eye defects, the percentage rising to 20 It was due to the use of the 'dhibri"

The reading of the test types during the course of the regular eye examination incidentally furnished a measure of general efficiency, if not exactly of intelligence, specially for smaller boys, who, although in the same standard, behaved differently in different localities, so far as their familiarity with, or ignorance of, the alphabet was concerned

HEALTH-QUOTIENT

12 It was noteworthy that 7 per cent. of the Forms D were issued for more than one defect in the same individual, which showed that it was the neglect of the general principles of hygiene that was responsible for allied or associated conditions

It would not be desirable to dogmatise on any of the above statements before a good many more boys had been examined, but based on these statements a health-quotient could be worked out, which was a relation of the percentage of Form D to that of the enlargement of tonsils which was taken as the determining factor In spite of the fallacies to which the conclusions may be exposed, they have a rough idea of the actual conditions of the schools based upon the amount of work done The higher the quotient the better the hygienic conditions of the school.

LECTURES

13 The treatment of these conditions lay in education to which end 72 lectures were delivered to the higher classes explaining the principles and importance of hygiene according to the prescribed syllabus Special care was taken to deliver the lectures in simple language deprived of technicalities, and illustrated by charts, diagrams and even experiments Most of the guardians were uneducated and they were not sanguine about this new system till the matters were explained to them It was gratifying to note that it had the most cordial co-operation of the school authorities and it was well received by the educated guardians But, generally speaking, the majority being too firmly ingrained in their old ideas, it could only be hoped that these boys with greater appreciation of hygiene would take better measures to prevent such defects among the coming generation besides whatever they could do for the cure in their own cases "Prevention is better than cure"

TREATMENT

14 But for treatment Forms E* were requisitioned in a few cases, the school medical officer was approached by some parents and guardians at the time of examination and eyes were tested wherever the medical officer was desired to do so It was thought desirable to first draw the attention of the parents to the existing conditions and to exactly what extent the attention was properly paid could be judged later on when a revision of examination would be made Also teachers were instructed for cases of mouth-breathing, deficient exercise, etc. As soon as the first examination of the existing scholars in the schools was finished, a revision could be started and changes noted in them They were all cases of slow and insidious diseases which could not be cured by any magical wand

A DIFFICULTY

15 Excluding the ordinary and the extraordinary holidays and the three examination days in the schools there are less than 200 days available in the year for the medical inspection There are 29 schools in the Bhagalpur Division requiring about 300 lectures in the year, so that each school cannot have a share of even 10 lectures not taking into account the absentees who fail to attend one or more of these lectures and thus fall short further still of the attendance of 10 lectures which has been made compulsory by the University and the Examining Board

PREMISES

16 A score of premises were examined and recommendations made on the spot. In several cases congestion in the class rooms, and in a few cases dimness of light, and in one case dampness in the hostel and existence of a pool in the vicinity of the school, were also noted.

Reviews.

THE MICROSCOPE A SIMPLE HANDBOOK—By CONRAD BECK Published by R and J Beck, Ltd, 68, Cornhill, London, E C Price 2*s* 6*d* net

SOME one said the other day that the doctor without a microscope is like the astronomer without a telescope This statement is even more true in India than it is in England, and it is quite exceptional for the doctor in India to meet a case of disease in which the microscope is not an important or essential instrument of diagnosis For this reason it is incumbent on every medical man in India to have a microscope and to know how to use it In spite of this fact, it is only a minority of doctors who possess microscopes and a smaller minority who know how to use them

The Beck family of London have been closely associated with the development of the modern

* Form E—Sending the boy to the hospital at the instance of the parent

are also seen These findings indicate degenerative renal lesions not inflammation The anthelmintics used to cure uncinariasis often cause temporary albuminuria, but very rarely a complication of importance At autopsies, renal degeneration is commonly found

The treatment consisted in the repeated administration of thymol and beta naphthol, preceded and followed by a saline Eucalyptol was tried, but was not found as efficacious The parasite was expelled in a lively condition Ferruginous preparations are declared useless, but Blaud's pills were often given in order to keep the patient under observation

This is a creditable report by a most important sanitary commission, for the disease is a formidable scourge in Porto Rico

Kurzes Lehrbuch der organischen Chemie von William A Noyes Professor der Chemie an der Universität Illinois Mit Genehmigung des Verfassers ins Deutsche übertragen von Walter Ostwald und mit einer Vorrede von Professor Wilhelm Ostwald Leipzig Akademische Verlagsgesellschaft m b H 1907

The translation into German of Professor Noyes' text book on organic chemistry is further evidence that the work done in the United States in chemistry—even in organic chemistry, the special field of the Germans—and especially the methods of teaching chemistry, is being recognized abroad. Within recent years a number of text books on chemistry, written by American authors, have been deemed worthy of translation into other languages, thus, the text books of Prof Ira Remsen, of Johns Hopkins University, and of Alexander Smith, of the University of Chicago, have been translated into German To this now is added the text book on organic chemistry by Prof William A Noyes, who is professor of chemistry at the University of Illinois and editor of the *Journal of the American Chemical Society* In the introduction to this translation the justification for the translation of this work into the German language which has a superabundance of similar text books is appropriately discussed by the eminent chemist, Prof Walter Ostwald of Leipzig In this introduction Professor Ostwald states that justification for the addition to German literature of a further text book on organic chemistry, in his estimation, is required and that it is found in the independence and originality with which the author has taken up and treated the problem before him Professor Ostwald then notes the necessity of giving a clear and comprehensive view of the field of organic chemistry when this study is first taken up This, he believes Professor Noyes accomplishes and the student who takes up this introductory volume will obtain such a general view of organic chemistry that, in the future, he need not fear being lost in "the wilderness of organic chemistry" (dass er sich in dem Walde der organishen Chemie nicht mehr verirren wird) While this text book gives the student who takes up this introductory volume will obtain such a general view of organic chemistry that, in the future, he need not fear being lost in "the wilderness of organic chemistry" (dass er sich in dem Walde der organischen Chemie nicht the author has nevertheless succeeded in indicating to the reader the vast scope of the subject before him without at the same time causing discouragement The facts are brought out so clearly that the student comprehends that which is presented to him and, at the same time, gains confidence to master that which is to follow

In the treatment of the subject the text book of Noyes differs from similar works in that the author has had the courage and independence to abandon the old classification of dividing organic compounds into the fatty series and the aromatic series, a classification which, with the constantly increasing knowledge of organic compounds, is becoming more irksome every day, and Professor Noyes is entitled to the distinction which the translation of his text book into the German language carries with it Medical students who desire to obtain a general knowledge of organic chemistry can do no better than to peruse this little work or its English original

Immunochemistry The Application of the Principles of Physical Chemistry to the Study of the Biologic Antibodies By Svante Arrhenius. Cloth Pp 309 Price $1 60 net New York The Macmillan Company 1907 All Rights Reserved.

This interesting but highly technical book represents a summary of a series of lectures on the "immunity reactions" delivered at the University of California in the summer of 1904 The character of the subjects discussed may be appreciated by citing the following chapter subheads Reversibility of Reactions Between Antibodies Velocity of Reactions Homogeneous Systems Velocity of Reaction Heterogeneous Systems Equilibria in Absorption Processes Neutralization of the Hemolytic Properties of Bases and of Lysins of Bacterial Origin Neutralization of Diphtheria Toxin, Ricin, Saponin and Snake Venoms The Compound Hemolysins, and the Precipitins and Their Antibodies

Without question scientific medicine is to be congratulated on the entrance of one of the world's greatest students of physico chemical processes, into the obscure field of the chemistry of the immunity reactions, and that Arrhenius has entered into this subject with a great deal of seriousness is evident from the scope of the undertaking, and the detail presented in this work as well as in the separate articles which have appeared from time to time It is also fortunate that so skilled a chemist has had as his collaborator a biologist and pathologist of the experience of Madsen, an arrangement which the character of the study would seem to demand

The results of these studies and similar studies carried on by others, have not received unqualified acceptance at the hands of many who are skilled in both the chemical and biologic aspects of the problems concerned An important feature of the criticisms which have been made concerns the apparent complexity and unknown character of the toxins bacterial constituents and the different antibodies, a condition which in the minds of many renders them unsuited to the exact methods employed in physico chemical determinations However true this may be, the inauguration of the study can meet only with approval, for in no other way can the applicability or the non applicability of physico-chemical laws to the reactions of immunity be determined Arrhenius thoroughly believes that they are applicable, and in this book presents a mass of chemical and mathematical data, bearing on reaction velocities between toxins and antitoxins, between other antigens and the corresponding antibodies, introducing original conceptions as to the agglutination and precipitation reactions, bringing numerous analogies from pure chemistry to bear on the subjects

The book can be followed in its details only by those specially trained in the mathematical calculations involved but here and there the author has summarized the results so clearly that it is not difficult to grasp the principles and to appreciate the results

Cancer of the Womb Its Symptoms Diagnosis Prognosis and Treatment By Frederick John McCann M D (Edin) F R C S (Eng) M R C P (Lond) Cloth Pp 172 with Illustrations Price $7 00 New York Oxford University Press 1907

In this monograph the term "cancer of the womb" is used in its very broadest application, since the author devotes space not only to carcinoma, but also to sarcoma and chorionepithelioma The subject of carcinoma is handled thoroughly, with the usual classification into cancer of the cervix and cancer of the corpus This work is based on forty two cases of the author's, which he treated, for the most part, by vaginal hysterectomy Removal by abdominal section is carefully considered, however, and a detailed description of the Wertheim operation is given The value of early diagnosis is emphasized, and the method of obtaining this is clearly explained This is the most valuable feature of the volume Dr McCann regards erosion of the cervix as an important factor in the etiology of cervical cancer The account of sarcoma is well prepared, as is that of chorionepithelioma, though both subjects are treated briefly as compared with the recent extensive literature on these topics In general, the author is at times not clear, some of his statements being contradictory He is scarcely dogmatic enough to be of much aid to the general practitioner while the specialist already possesses other works on these subjects that are more comprehensive and authoritative References are made almost exclusively to German articles, the literature of Great Britain and America having been largely overlooked

While but a monograph of 161 pages, the work is printed on heavy paper and supplied with many full page illustrations, excellently reproduced, so that it takes on the size and form of a text book

The author's incursions into the region of cell physiology can only be regarded as pure imagination, and a good example of that arm-chair philosophy, which is as dangerous in medicine as in other walks of life It would appear as if he had conceived a theory and then set himself to prove it by pulling to pieces the theories of other distinguished scientists

It is not our intention to challenge the author's honesty, and we do not question his results but we may point out that such results are no more proof of the author's theory than the success of chemical experiments are proof of the atomic theory of the constitution of matter On the other hand, the author has no doubt, done great service to medicine by the introduction of his pyretic treatment We have always had methods for raising the temperature locally with a view to therapy, but, raising the temperature of the whole body, producing fever in fact, is new to the mass of the profession and no doubt as a therapeutic measure has its uses Whether it cures in the manner described by the author is another question

On the whole this is a refreshing composition and repays careful study The author is a man of considerable experience and has had much success in treating the class of cases described We should, however, like to see some confirmation of his chemical results

THE PRACTICE OF MEDICINE IN THE TROPICS, Vol I —Edited by LIEUTENANT-COLONEL BYAM, O B E, and MAJOR R G ARCHIBALD, D S O Price £4 4*s* Oxford Medical Publications

THIS is the first volume of a work which has been eagerly awaited for some months by those who are interested in tropical medicine The complete work will be in three volumes, and if the remaining two attain to the same standard of excellence as the first, the great expectations which have been formed in connection with the book will not be disappointed

The section on hygiene and minor tropical sanitation by Dr Andrew Balfour is exceedingly good, it is written in the breezy and interesting style which makes Dr Balfour's contributions to literature so attractive and the subject-matter is far in advance of any existing account of tropical hygiene

In the section on entomology it is disappointing to find that no scale of dimensions is given in connection with many of the illustrations, otherwise the section is a model of completeness and suitability

In the section on laboratory methods there is also a minor grievance in that the microscope which is the eye of the tropical physician has been inadequately dealt with, the manipulation of the light and the substage condenser are passed over in a few words

The section on snakes is eminently practical and is illustrated by fine coloured drawings of all the most important Indian snakes, and the subject is dealt with in a manner which will be highly appreciated by medical men in India We would suggest to the authors of the section that an up-to-date snake treatment outfit should be devised by them for the use of dispensaries and of doctors who have to travel in the jungle In the absence of such an outfit it is hardly likely that the elastic ligature, the tube of chloride of gold solution, the hypodermic syringe and antivenene will be available when needed

Altogether this work on diseases of the tropics is of the greatest value not only as a text-book but also as a work of reference Its size serves as an indication of the rapid strides which have been made in connection with tropical diseases in the past few years The criticisms which have been made are such as can easily be levelled at any book of the kind in existence, and they are by no means intended to suggest that the book falls short of a very high level of excellence No physician in the tropics can afford to dispense with this work in spite of its cost

AIDS TO MEDICINE —By BERNARD HUDSON, M D (Camb), M R C P (Lond) Third Edition Published by Bailliere, Tindal and Cox, 1921 Price 4*s* 6*d* net

THE object of this volume is to supply the student with a book for revision purposes of a convenient size to carry about

The book is of a size which will comfortably fit into a coat pocket

Within the necessary limitations of size, the book presents most of the essential features of medical diseases in a compact but informative manner

The book is not intended to serve as a text-book and does not give details such as would be necessary for the treatment of diseases

THE HEART RHYTHMS —By PAUL DUDLEY SAMSON, M.D Baltimore Williams and Wilkins Company, 1921

THE avowed object of this little book is to separate the study of cardiac rhythms from "the intricate mass of information concerning instruments, curves, cardiac physiology, etc," with which it is usually mixed up

It is divided into two parts the first deals with the development of our knowledge of the heart rhythms, the important elements of the heart beat, the functional parts into which it is possible to divide the heart by means of the electro-cardiograph, the classification of rhythms and abnormalities of conduction from auricle to ventricle, the second part is concerned with the interpretation of the electro-cardiogram, polygraph, sphygmograph and pulse tracings

The classification of rhythms, particularly their diagrammatic representation, is exceedingly simple and well conceived and may be said to

At the examination held at Portland, November 12, the total number of candidates examined was 16, of whom 13 passed and 3 failed The following colleges were represented

College	Year Grad	Per Cent.
PASSED		
Kentucky School of Med	(1906)	81 5
Tufts Coll Med. School (1906) 88 3	(1907) 89 1	93 1
Boston University	(1907)	91 4
Woman s Med. Coll of New York	(1895)	94 4
University of the South	(1901)	81 4
Laval University Quebec (1905) 80 3 82 4	(1906) 81 6, (1907) 81 2 84 1	
Bishop s College Montreal Quebec	(1901)	77 6
FAILED		
Kentucky School of Med	(1906)	*63 6
College of P and S Baltimore	(1905)†	
Harvard Med School	(1897)†	

* Second failure

† Failed to make necessary percentage of 60 in one branch

Maryland December Report.

Dr J M Scott, secretary of the Maryland board, reports the examination held at Baltimore, Dec 10 13, 1907 The number of subjects examined in was 9, percentage required to pass, 75 The total number of candidates examined was 45, of whom 34 passed and 11 failed The following colleges were represented

PASSED

College	Year of Graduation	Anatomy	Surgery	Pathology	Obstetrics	Practice	Chemistry	Mat. Med	Therapeutics	Physiology	Average
Howard University	1907	80	75	81	63	82	87	95	97	75	82
Howard University	1907	81	85	67	88	91	67	75	85	90	81
Howard University	1906	70	95	50	87	86	68	82	76	75	77
Howard University	1907	86	90	59	88	85	62	72	73	75	77
Howard University	1907	52	80	68	91	76	64	90	94	75	77
George Wash. Univ	1907	77	85	83	100	90	92	98	92	92	90
George Wash Univ	1906	85	90	63	100	87	47	81	76	85	79
George Wash Univ	1907	76	85	76	100	87	93	80	84	75	84
George Wash. Univ	1906	76	70	70	92	77	83	76	81	75	78
George Wash Univ	1907	77	75	65	78	88	68	75	75	75	75
Amer Med Miss Coll	1906	67	90	86	90	84	93	75	75	95	84
Johns Hopkins Med Sch	1906	84	90	88	100	87	82	89	90	68	86
Johns Hopkins Med Sch	1907	80	90	97	100	84	79	74	95	70	86
Johns Hopkins Med Sch	1907	77	90	97	92	89	95	90	95	95	91
Johns Hopkins Med Sch	1903	84	98	82	91	93	97	96	94	95	92
Johns Hopkins Med Sch	1906	94	90	88	100	87	82	89	90	68	86
Johns Hopkins Med Sch	1907	80	90	95	100	96	76	96	97	100	93
Johns Hopkins Med Sch	1907	75	90	84	76	81	75	95	90	92	84
Woman s Med Coll Balt.	1906	61	80	55	90	83	91	93	85	73	79
Coll of P and S Balt	1907	80	85	80	82	87	90	81	96	80	86
Coll of P and S Balt	1907	85	80	91	92	94	91	88	87	90	89
University of Maryland	1906	83	85	81	87	80	77	85	86	95	84
University of Maryland	1907	91	80	88	85	77	84	95	91	85	86
University of Maryland	1907	82	85	54	83	75	64	76	76	85	76
University of Maryland	1907	75	90	77	78	75	55	75	90	85	78
University of Maryland	1907	58	85	75	100	76	76	98	92	80	76
Univ of Michigan	1902	90	95	100	90	94	90	98	98	92	94
Univ of Pennsylvania	1905	61	90	95	84	88	77	92	95	83	85
Univ of Pennsylvania	1906	84	80	82	84	80	82	80	77	66	79
Univ of Pennsylvania	1907	79	80	65	85	79	55	80	72	80	75
Univ of Pennsylvania	1907	88	80	91	80	80	85	76	81	78	83
Woman s Med Coll of Pa	1903	80	80	72	96	83	84	95	94	86	86
Univ of Moscow Russia	1893	75	80	58	100	86	64	77	80	60	76
Univ of Turin Italy	1906	58	80	80	86	85	80	80	80	75	78

FAILED

George Wash Univ	1907	32	80	67	85	79	44	62	71	75	65
George Wash Univ	1907	19	85	40	80	89	40	70	86	60	64
Howard University	1907	62	70	26	61	71	41	65	61	75	59
Baltimore University	1907	44	75	34	56	62	53	84	80	75	63
Baltimore University	1907	28	70	18	10	55	30	36	24	50	37
University of Maryland	1907	47	60	55	76	64	23	84	90	70	63
University of Maryland	1907	30	80	68	90	68	47	82	81	70	68
Maryland Medical College	1907	16	80	36	55	75	10	75	70	85	56
Coll of P and S Balt	1907	33	85	83	84	68	63	60	45	75	66
Medico-Chir Coll Phila	1907	32	75	23	63	44	32	64	55	67	53
Jefferson Med College	1907	68	85	56	68	96	58	75	75	67	72

The following questions were asked

ANATOMY

1 Name the bones and ligaments entering into the formation of the ankle joint. 2 What anatomic structures pass through the sphenoidal fissure 3. After ligation of the common carotid artery how is collateral circulation established? 4 Describe the pancreas giving its relations 5 Name muscles attached to the upper third of the femur 6. Give origin course and distribution of the phrenic nerve

PHYSIOLOGY

1 Name the constituents of normal urine Name the abnormal constituents of urine also 2 What is meant by blood pressure and how is it regulated? 3 Name the glands in the small intestines and state their functions 4 What is accomplished physiologically by the portal circulation? 5 Name the varieties of epithelium and describe briefly the function of each 6 Give the physiologic action of normal salt solution

CHEMISTRY

1 Define crystalline colloid amorphous crystalloid nascent 2. Give composition (formula) mode of preparation and general properties of lime water 3 Name the halogens and give their general properties and occurrence in nature In testing for which one is starch used? Describe the procedure in detail 4 Give chemical composition (formula) and general properties of bismuth subnitrate and explain the dark color of the stools following its therapeutic use Name its most dangerous impurity and give test for the detection of same 5 Describe the element nitrogen with its occurrence in nature its general properties and relation to vegetable and animal life 6 Give in detail two reliable dissimilar tests for the detection of albumin in the urine Name the substances in each test with which it may be confused and describe the methods of differentiation of each

PATHOLOGY

1 Name and describe briefly the various laboratory methods of sterilization by heat Explain fractional sterilization and give reasons for its employment 2 Name and give method of staining of the specific organism in the following diseases Meningitis (-varieties) and gonorrhea Give Gram s differential method of staining the latter 3 Give the gross pathology of ulcer of the stomach with usual location of the same and theories as to its causation 4 Define ascites and give the gross pathology of three diseases giving rise to it 5 Name the connective tissue tumors and state which are malignant Of those malignant describe the one most so and name its subvarieties in the order of the malignancy 6 Give the gross pathology of a severe case of malarial fever (estivo-autumnal type) Describe the parasite causing same and name the insect which acts as an intermediary

MATERIA MEDICA.

1 What are the preparations of sodium and the dose of each? 2 What is the dose of apomorphin atropin caffein digitalin elaterium and santonin? 3 What are the preparations of jaborandi its alkaloid and dose? 4 What is the composition of compound cathartic pill brown mixture seidlitz powder and Donavan s solution? 5 Name the preparations of mercury and give doses 6 How are chloroform and ether obtained

THERAPEUTICS

1 (1) Define therapeutics (2) general (3) special (4) empirical (5) rational (6) prophylactic (7) mechanical 2 What are the therapeutic uses of the preparations of belladonna? Describe symptoms and give treatment of belladonna poisoning 3 Give physiologic action and therapeutic uses of alcohol 4 Write a prescription for follicular tonsillitis and one for acute bronchitis 5 Antidiphtheria serum (1) How and when to be used (2) dose prophylactic (3) curative 6 Give the physiologic action and therapeutic uses of salicylic acid and the salicylates

PRACTICE

1 a Define pyelitis b define pertussis c, define urticaria and in addition give its synonym d describe Hutchinson s teeth and state in what disease they most commonly occur 2 a Give the history of a case of incipient pulmonary tuberculosis b how would you make the diagnosis positive? c what treatment would you recommend and what measures would you take to prevent the spread of infection? 3 a Give differential diagnosis between follicular tonsillitis and tonsillar diphtheria b give differential diagnosis between measles and scarlet fever 4 a Give the treatment of locomotor ataxia b give the treatment of lobar pneumonia c give the treatment of chorea 5 a Give diagnosis of locomotor ataxia b give diagnosis of empyema c give diagnosis of gallstones 6 a What methods would you employ were you called to a case of suspected variola? b how would you diagnose this case and what treatment would you use for (1) the patient (2) to prevent the spread of the disease?

SURGERY

1 Give some of the chief causes of delayed union in fractures and the treatment you would adopt for each of these causes 2 What are postnasal adenoids and what is the treatment? 3 Give differential diagnosis clinical course and treatment of gonorrheal arthritis 4 Describe several forms of corneal ulcer their causes and treatment 5 Differentiate calculus in bladder from calculus in kidney 6 Give the differential diagnosis of malignant and non malignant breast tumors

GYNECOLOGY AND OBSTETRICS

1 Describe treatment of a shoulder presentation 2 What method would you adopt to relieve a prolapsed fetal cord 3 How would you manage a case of retained placenta associated with profuse hemorrhage 4 Give me your treatment of a prolapsed and retroflexed uterus 5 Give indications for and methods of applying a vaginal tampon and state how long it should remain in the vagina 6 Describe the operation for repair of a complete perineal rupture

Marriages

GEORGE W BRONSON M D, to Miss Minnie C Nater, both of Streator, Ill February 5

LOUIS H LIMAURO M D, to Miss Chiara Longobardi, at New Haven, Conn, February 17

FRED C DOWNEY, M D, to Miss Daisy Vance Dinger, both of Edinburg, Va February 12

TULLIO A ROTTANZI M D, to Miss Alice Deming, both of San Francisco, February 12

HUGH MUNRO MILLER, M D, to Miss Florence Raff, both of South Bend Ind, February 8

CHARLES D CARR, M D, Philadelphia, to Miss Sophie Ashley of Wilkesbarre Pa, February 12

MORTIMER A HALSER M D, Arapahoe, Neb, to Miss Flora Wehn of Beatrice, Neb, February 12

About Virol

Virol is a preparation of red-bone marrow, marrow fat, eggs, lemon syrup, and phosphates of lime and iron, in the form of an exceedingly fine emulsion, the fat globules being finer than those in human milk

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S H.B

home in Butler, Mo, February 14, from influenza, after a brief illness, aged 82

Joel J Crook, M D College of Physicians and Surgeons, Keokuk Iowa, 1863, surgeon of the Seventh Kansas Volunteer Cavalry during the Civil War, and for many years a resident of Leadville, Colo, died at the home of his son in Glenwood Springs, Colo, February 14, from pneumonia, aged 80

Otto P Dillon, M.D Medical College of Ohio, Medical Department University of Cincinnati, 1890, of Rushville, Ind, was instantly killed in a collision between his automobile and a passenger train while making a professional call, February 9, aged 39

Bonnie G Wood, M D Memphis Hospital Medical College, Memphis, Tenn, 1890, a member of the American Medical Association, died at his home in Cominto, Ark., Oct 11, 1907, from pernicious malarial fever, after an illness of ten days, aged 40

John S. F Featherston, M.D University of Louisville (Ky) Medical Department 1869, a member of the American Medical Association, and a prominent practitioner of Macon, Miss, died at his home February 13, after a brief illness, aged 62

George W Roffey, M.D Eclectic Medical Institute, Cincinnati, 1877, for six years in charge of the hospital of the Franklin County Infirmary, Columbus Ohio, died suddenly from heart disease, in that institution, February 9, aged 60

Robert Innocence Thomas, for sixty years a practitioner of medicine, and a surgeon in the Army during the Civil War, died at Los Angeles, Cal, Nov 21, 1907, from hernia and intestinal obstruction after an illness of ten days, aged 89

Milford L Bates, M D Berkshire Medical College, Pittsfield Mass, 1867, a member of the medical societies of the State of New York and County of Columbia died at his home in Canaan Four Corners, N Y, January 26, aged 62

Lucius Lee Ardrey, M.D Bellevue Medical College, New York City, 1900, formerly of Burgaw, N C, died at his home in Bandera Texas February 12 from pulmonary tuberculosis after illness of several years, aged 34

Henry Clay Wood, M D Hahnemann Medical College and Hospital, Philadelphia 1867, a veteran of the Civil War died at his home in West Chester, Pa, February 12, from nephritis, after an illness of two years, aged 63

Thomas W LeCrone, M D Starling Medical College, Columbus, Ohio, 1882, a practitioner of Millersport, Ohio for 20 years, died at his home in Columbus, February 11, from diabetes, after a long illness, aged 55

William Holden Chace, M.D University of Buffalo (N Y) Medical Department 1877, a member of the American Medical Association, and a well known practitioner of Buffalo, died at his home, February 14, aged 45

Samuel Jeffrey Avery, M D Rush Medical College, Chicago, 1864, a member of the Illinois State and Chicago medical societies, died suddenly at his home in Chicago, February 17, from heart disease aged 80

Elmer Shirts, M.D Kentucky School of Medicine, Louisville, 1890, treasurer of Greene County, Ind, formerly a practitioner of Lyons, Ind, died suddenly from edema of the glottis, February 6, aged 47

A Matthew Bevier, M.D University of Buffalo (N Y) Medical Department 1866, for more than 40 years a practitioner of Owasco, N Y, died at his home in Niles, N Y, January 27, aged 87

Daniel A Langhorne, M D University of Pennsylvania, Department of Medicine, Philadelphia 1848, a Confederate veteran, died at his home in Lynchburg, Va., February 10, after a long illness, aged 82

John French Gibson, M D University of Wooster, Medical Department, Cleveland, 1873 a veteran of the Civil War died at his home in Cleveland, February 8, from pneumonia, after a brief illness, aged 62

James T Rosser, M.D Atlanta (Ga) Medical College, 1876 surgeon in the Confederate service during the Civil War, died at his home in Atlanta, from pneumonia, February 10, after a short illness, aged 71

George Hilton Wood, M.D Jefferson Medical College, Philadelphia, 1880, U S pension examiner at New Bethlehem, Pa, died at his home in that city, February 7, from broncho pneumonia aged 54

Richard Douglas, M.D Medical Department University of Nashville Tenn 1881 died from nephritis February 18 A full notice will appear in the issue of March 7

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION POSTGRADUATE WORK CONTRACT PRACTICE INSURANCE FEES LEGISLATION ETC

Legislation in Ohio

The joint committee on public policy and legislation of the Ohio State Medical Association met at Columbus January 21 for the discussion of bills now before the state legislature Dr J W Clemmer stated that an organized effort was being made on the part of proprietary manufacturers to defeat the pure food and drug law He also stated that the attorney of the proprietary association, Mr Douglas of Chicago, and the president, Mr Frank Cheney of Toledo, proprietor of Hall's Catarrh Cure, were at Columbus for that purpose The committee approved the pure food and drug bill A committee was appointed to consider the criminal abortion bill and to confer with legal representatives regarding it The nurses' bill, creating a separate board of examination for nurses, was not approved The bill forbidding the public advertising of venereal diseases was endorsed The optometry bill was then considered and Dr Gibson of Youngstown stated that the bill has been so modified as to place the control of the licensing of oculists under the state board of medical examination With this understanding the bill was endorsed as read A bill providing for the establishment of deputy county health officers was endorsed, also a bill authorizing the county commissioners to establish a laboratory in each county This bill permits two or three counties, by joining together, to establish a common laboratory for pathological and medical examination A bill regulating the "practice of non medical healing" was positively condemned

Vital Statistics Bill Defeated in Virginia

The bill for registration of deaths in Virginia has been withdrawn. This action has been taken largely on account of the opposition of the undertakers, who did not wish to take the trouble of filling out applications for burial permits As a result, Virginia must do without any reliable record of deaths or causes of deaths until the undertakers are willing to fill out the necessary blanks Is it possible that the undertakers in Virginia have more influence with the legislature than has the medical profession?

County Society Scientific Programs

In the *Journal of the Kansas Medical Society*, January 1908, appears an article on "Success and Failure in Medical Organization," by Dr Frank G Carmichael of Goodland Dr Carmichael said in part

The value of the organization is determined by the ability, tact, energy and zeal of its members Its maintenance and life are dependent on the same factors In our own society in the last two years the meetings have been only fairly well attended The number of members at any meeting did not exceed seven, out of a total membership of twenty Our programs at each meeting have announced contributions from members, the majority of whom have not appeared at the meeting or, appearing have not prepared or presented their papers The effect of this failure on the part of those who have promised to contribute has been most detrimental to the interests of the society I know of no better way to bring about an early demise of any society or organization than a failure on the part of those on its program to do their part Examining into the reason for this condition, experience shows that at no time has the attendance exceeded 33 per cent of the membership The natural conclusion is that the remaining 66 per cent are either too busy or are not sufficiently interested in the welfare of the society to attend its meetings If the former supposition were tenable the unfortunate members whose practices are so exacting as to give them no time to attend medical meetings would be the objects of our deepest sympathy Such is not the case There is no member of this society whose time is so thoroughly taken up that he can not spare a day every three months for his own advancement and that of the profession We may, therefore, frankly ascribe the failure in attendance to lack of interest disinclination or fear that a competitor may filch one of our patients during our absence

Correspondence.

THE DANGER OF INJECTING AIR INTO A VEIN

To the Editor of THE INDIAN MEDICAL GAZETTE

SIR—My attention was drawn to this important subject by Major Porter's correspondence in the January issue of the *Indian Medical Gazette* Hence I place before my readers an experience of three years' in connection with the subject, if experience it could be called

The air bubbles may be classed into three main kinds —



1 Small size
2 Medium size
3 Large size

During my few years' service I have given hundreds of intravenous injections for the introduction of anti-syphilitic and other valuable remedies, without any danger resulting from the introduction of an air bubble of No 1 size. Same is, I believe, Major Porter's experience, though he does not make any mention as to the size of the bubbles injected by him. Truly, it has been said by him that many of our brethren are timid to give intravenous injections, merely because of the danger of an air embolus They have been wrongly convinced to a fair extent They may safely inject an air bubble of No 1 size without any ill effect following it. I have no experience with No 2 bubble. But No 3 size bubble would end in death and I dare not suggest to any of my professional brethren to attempt this bubble for injection I had once lost a patient through my carelessness in expelling air from the salvarsan injecting apparatus and it was in the beginning of my medical career My conclusion is as follows —

Air bubble of No 1 size = No harm.
Air bubble of No 2 size = Little harm (may or may not.)
Air bubble of No 3 size = Death

It is of no avail to enter into discussion and one's guidance should be as dictated by Professor Albert Carless in his famous book of surgery (Ed 1920, page 362, para 2) and I cite his words "A large embolus started in a peripheral vein lodges in one of the branches of the pulmonary artery and may cause instant death, a smaller one is arrested in one of the smaller arteries of the lung and may do but little harm, whilst minute ones may possibly pass through the pulmonary capillaries to the left side of the heart and subsequently become impact in the systemic vessels

Yours, etc.,
RAJINDER SINGH GREWAL,
I.M.S (S'pore),
Assistant Surgeon Meiktila Burma

12th February, 1922

To the Editor of THE INDIAN MEDICAL GAZETTE

SIR,—In response to the correspondence of Major Porter, published in the January number of the *Gazette* I may mention here that while in charge of a special venereal section of a war hospital for a few months, I had to perform myself not less than a hundred intravenous salvarsan and kharsivan (not the neo-salts) injections every week. During the troublesome process I once could not avoid introducing two or three air bubbles at rapid succession According to the traditional teaching of the terrible effects of air embolism, I passed a few most anxious hours But happily nothing untoward transpired

Later on, on three more occasions, I distinctly remember to have introduced air bubbles in the veins of different individuals, without any bad effect.

In my opinion, it is most likely that the air bubbles are incarcerated into the meshes of the columnæ carneæ of the right auricle and its appendix, whence gradually absorbed by the blood stream. I think bad result can only follow in the shape of an embolus in the pulmonary tissues, unless the volume of air introduced is immoderate, in which case a condition of shock and sudden heart failure is not unlikely to follow from the irritation of the sensitive endocardium

Later on, in my present practice in a bad kala-azar area, while injecting antimony solutions and neo-salvarsans, which I have had to perform very frequently, I never take any great trouble to remove those minute air bubbles which so tenaciously adhere to the sides of syringe and piston, without any bad effect whatsoever

On the strength of the above facts, I can conclude that the dread of introducing air bubbles is mostly hypothetical Of course, every ordinary precaution to the technique and a rigid asepsis should on no account be relaxed

I hope other workers will kindly publish their observation and put a strength to our findings

Yours, etc.
H CHATTERJEE, M.B,
LATE CAPTAIN, I.M.S,
Baisrasi, Sadarpur, Faridpur

25th February, 1922

To the Editor of THE INDIAN MEDICAL GAZETTE

SIR,—In your issue of January 22, I find amongst the correspondence columns a small matter of actual experience as depicted by Major Porter with reference to the bug-bear of the fear of introduction of air bubbles in intravenous injection. I thoroughly agree with the writer, although my own experience is not too extensive I have had the opportunity, however, of giving a good many intravenous injections of salvarsan while in military duty in 1918, at the Labour Corps War Hospital at Dadar, and this much dreaded misfortune had occurred a few times before it could well be prevented, although every possible precaution was being taken To my surprise, however, in no case any ill results followed this accidental introduction of a little air into the veins, and although one would certainly try his best to prevent such an occurrence, a few air bubbles accidentally introduced in these injections do not, as a matter of fact, cause any ill effects on the patient

Yours, etc.,
V R MASUREKAR,
CAPTAIN, I.M.S (Hon.)

BHATWADY 1ST LANE,
GIRGAON, BOMBAY,
20th February, 1922

BRITISH INCOME TAX

To the Editor of THE INDIAN MEDICAL GAZETTE

SIR —May I remind those of your readers who receive income from the United Kingdom and have already made a claim to the Inland Revenue for repayment of the Income Tax deducted therefrom for last year, that a further claim can now be made in respect of the current financial year

To those of your readers who possess such income and have not yet made their claims, I would point out that by the Finance Act, 1920, a British subject resident out of the United Kingdom is entitled to recover the whole or part of the Income Tax deducted from income arising in this country With tax at 6*s* in the £, it means a very considerable addition to the income of such persons

In addition to the above claims, any person, whether British subject or otherwise, may recover the whole of the tax deducted from the interest on foreign and colonial securities paid through this country for the past three years I have known these claims to amount to hundreds of pounds

I have made the subject of Income Tax claims my special study and am prepared to give the benefit of my experience to any of your readers without charge, as it occurs to me that it is a great pity that many thousands

Society Proceedings

COMING MEETINGS

Association of American Medical Colleges Cleveland, March 16-17
Medical Society of the Missouri Valley Lincoln Neb March 19-20

NEW YORK ACADEMY OF MEDICINE

Regular Meeting of the Section on Surgery, held Jan. 10, 1908

DR. CHARLES H. PECK in the Chair

Vaginal Drainage of Ureter After Nephrectomy

DR. A. ERNEST GALLANT presented a woman from whom he had removed a retrocolonic tumor made up of dilated kidney and pelvis. When he exposed the ureteropelvic junction an obstruction was found due to an S like bending of the ureter, which was bound down by dense adhesions, completely shutting off the urinary flow. Because of the large size of the kidney no attempt was made to suture it, but gauze packing was placed under it and the urine flowed freely for several days. When the packing was removed the obstruction recurred, and it was deemed advisable to do a nephrectomy, leaving a part of the pelvis and the ureter. An incision was made into the vagina and the ureter was pulled down with the finger, rendering its resection quite easy. The ureter was cut off about an inch from the bladder and sutured in such a way as to expose its lumen in the vaginal vault. Two sutures were inserted through the vaginal wall and the bladder end of the ureter closing it off. Later the vesicovaginal fistula was closed. A small papilla marked the site of the ureteral implantation.

Tuberculosis of the Kidney

DR. A. A. BERG presented a patient who had suffered from renal tuberculosis for one year, the disease running the ordinary course. Cystoscopic examination showed large ulcerations of a typical character. The urine contained large quantities of thin pus and tubercle bacilli. The left kidney was secreting sufficient urine to warrant the removal of the diseased kidney. In order to prevent the great amount of bleeding and consequent shock, Dr. Berg did a subcapsular nephrectomy. He cut through the fibrous capsule and shelled out the kidney. This took but five or ten minutes and there was practically no bleeding. A rubber ligature was passed around the pelvis of the kidney and the amputation was performed.

Total Anuria from Obstruction of One Ureter Due to Rotation of Kidney

DR. BERG also presented this patient, who had complained for years of attacks of kidney colic on the right side. Suddenly she noticed that she voided no urine and, in spite of the use of all the customary methods for stimulating the secretion of the urine, she passed none for seventy-two hours. No obstruction was found in the ureters up to the kidney pelvis. No urine came through the ureteral catheters. On exposing the kidney of the right side it was found to be lying in the transverse position, with its pelvis upward and the cortex downward, the ureter passing over its inner pole. The kidney was stone hard and there was some perinephritis. It was easily restored to its normal position. No calculi were present. A drainage tube was introduced into the kidney pelvis, and immediately urine flowed through it in large quantities. The next day she passed urine through the bladder. A gradual but uninterrupted recovery followed.

Unilateral Surgical Kidney Following Urethral Instrumentation

DR. BERG presented a boy who had suffered five years from incontinence of urine. It was suspected that there was a stone in the bladder and an examination was made with the searcher under strict anti-septic precautions. Nevertheless, in twenty-four hours, he was seized with chills, a rapid and high rise of temperature and marked prostration. Ten days later the right kidney was large and tender, and there was a large amount of pus in the urine. At operation the right kidney was found to be moderately enlarged and to contain many miliary abscesses. The pelvis was much distended and contained purulent urine. The pelvis of the kidney was drained. With the nephrotomy and drainage the boy improved, but later he became worse and it was decided to resort to further operative interference. The left kidney was of normal size, but surrounded by a perinephritis. Supposing from this that its condition was the same as the other, he did a subcapsular nephrectomy. Practically no shock followed the operation. The boy is now in good physical condition. Numerous abscesses were found to be present in the cortex of the kidney.

Nephrolithiasis in a Horseshoe Kidney

DR. BERG presented a man who gave the ordinary history of nephrolithiasis. The x-ray showed a stone in the cortex of the right kidney. On operation he found a horseshoe kidney, fused at the lower pole. It was impossible to raise the kidney into the wound, and needling the kidney did not reveal the stone. However, the patient subsequently passed a stone, which the manipulation had started down into the pelvis.

Rupture of Kidney

DR. BERG presented a woman who had a severe rupture of the kidney caused by being run over by an automobile. The kidney was torn obliquely from the upper junction of the pelvis with the cortex to its middle and lower third. A second rent was in a longitudinal direction along the inner border from the pelvis to the lower pole. The kidney was delivered into the wound, the rents repaired, and an uninterrupted recovery took place.

Simple Cyst of Kidney

DR. GEORGE E. BREWER presented a patient who had symptoms of intermittent hydronephrosis, having experienced a number of attacks of acute pain in the right lumbar region, extending down along the course of the ureter to the groin. These attacks would be accompanied by swelling, and more or less tenderness over the right kidney region. What appeared to be the round extremity of the upper pole of the kidney could be felt. On exposing the kidney, however, this proved to be a large, translucent, thin walled cyst springing from the anterior surface of the organ, just above the sinus. This was readily enucleated.

Double Vesiculectomy and Vasectomy

DR. GEORGE E. BREWER presented a negro, 40 years old, who was admitted to the hospital with an abscess of the scrotum, with distinct induration of the epididymis of both sides. The abscess was found to be tuberculous, and due to an extensive tuberculous orchitis of the left side. It was also found that he had extensive tuberculous disease of the other testicle, both vasa deferentia and both seminal vesicles. The prostate was not involved. As the patient only consented to the removal of the diseased area in the scrotum, both testicles were removed with only a small portion of each vas. When he left the hospital two weeks later, he was advised to return for the complete removal of both genital tracts. A transverse incision was made in the perineum and the seminal vesicles were exposed, separated from their beds and freed as far upward as the ureter. An incision was then made over each inguinal ring, the canal freely exposed, and the free extremity of each secured. These ends were separated from the surrounding tissues of the cord by a blunt dissection, and the intra abdominal portion liberated by a gradual sawing motion. The structures parted somewhere between the ureteral implantation into the bladder and the brim of the pelvis. Both testicles and vasa were then removed, and the wound in the perineum was closed partly, and the abdominal wounds were closed completely. Practically no reaction occurred and an uninterrupted recovery followed.

Acute Septic Infarcts of the Kidney

DR. GEORGE E. BREWER presented a woman 26 years old who seventeen days before admission suffered from acute pain in the right flank, radiating to the groin, associated with chills and high fever. She had daily chills, continuous fever and general prostration. She vomited frequently. The physical examination was negative, except for costovertebral angle

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OBSTETRICAL SOCIETY OF PHILADELPHIA.

Regular Meeting, Dec 5, 1907

The President, DR WILMER KRUSEN, in the Chair

Retrodeviations of the Uterus

DR. C L. BONIFIELD, Cincinnati, Ohio, employs a modification of the Gilliam operation, which he described as follows

Make the usual incision in the median line Deal with complications Have an assistant catch the fascia at a point about an inch and a half above the lower end of the incision and pull it toward the opposite side, seize the skin and underlying fat and retract them With a sharp knife dissect them loose from the fascia to a point almost above the internal inguinal ring Make a vertical incision through the fascia, take a curved clamp and with it separate the muscular fibers down to the peritoneum With two fingers of the other hand, in the abdomen, the clamp is guided under the peritoneum till it passes where the round ligament is seized and pulled out through the opening in the fascia It is securely sutured to the outer surface of the fascia with chromicized catgut, and the opening closed with the same material If the ligament has not been seized at the point which will raise the uterus to the desired level, it is easy to change it by the use of another clamp outside the opening of the fascia Sometimes, in carrying the end of the clamp over the iliac artery, the peritoneum is perforated If so, no effort is made to get under it again, but the ligament is seized, covered with the peritoneum and pulled through the opening The peritoneum is then stripped off with dry gauze, to prevent pulling on the bladder as well as to get firm union of the ligament. The other ligament is treated in the same way, taking care that the opening through the fascia is at the same level as its fellow

DISCUSSION

DR. E. E MONTGOMERY thought that in bringing forward the ligament, Dr Bonifield makes the operation unnecessarily difficult, but agreed with him as to the wisdom of utilizing the portion of the ligament toward the uterus because it is the strongest and the part most likely to maintain the uterus The portion passing through the inguinal canal is weakest and most prone to become attenuated The operation he is accustomed to perform is a combination of the Gilliam and Simpson operations, one of which is well known. Operative procedure may be avoided by the use of the pessary in the case of a woman whose uterus is retrodisplaced after confinement merely because the process of involution is not completed The pessary will retain the uterus in proper position until involution is completed

DR. BARTON COOK HIRST regards suspension as the easiest, quickest and simplest operation for the correction of displacements, and in his personal experience it has not had the disadvantage of complicating subsequent gestation and child bearing In more than 500 suspensions he has not yet seen nor heard of a single serious difficulty in subsequent pregnancies and labor The only objection to suspension is lack of permanency in results This is not as grave an objection as it might seem to be, because if the uterus is held in place by suspension for a year or two and the woman bears a child, in the majority of instances the uterus remains in good position subsequently without artificial support The operation he likes best is the modified Alexander operation, the operation in which the round ligaments are shortened in their natural position by laying open the whole inguinal canal He claimed that if the round ligament, through a median incision, is grasped by forceps through the abdominal walls at the internal inguinal ring and is pulled out of the abdominal cavity at that point, the uterus should be in better position than if the round ligament is threaded through the abdominal wall above the axis of the inguinal canal and at a point nearer the median line than the internal ring

DR. WILLIAM E. ASHTON emphasized the fact that no matter what operation is performed for the cure of the condition, the results are often disappointing, unless the body-form is carefully studied and perversions if they exist, corrected, i. e., the mere correction of the displacement by an operation and the repair of a laceration of the pelvic floor will not result in a permanent cure, if the chest is contracted, the abdominal wall relaxed or a lumbar lordosis absent It is, therefore, necessary to study the causes of the perverted body form and remedy it either before or subsequent to operating In many instances he does not operate in chronic cases until the perverted body form is corrected, while in others when the anatomic perversion is slight or the associated pelvic lesions unimportant, he first remedies the retrodeviation by an operation and then uses suitable means to relieve the structural deficiencies In a general way the treatment for the perversions of the body form is carried out as follows 1 Outdoor exercises which must include those especially directed to develop the capacity of the chest, the strength of the abdominal walls and the anterior projection of the lumbar lordosis 2 Exercise in the open air 3 Daily removal of the fecal matter accumulating in the colon 4 Good hygienic conditions 5 An abdominal bandage of a non elastic material or a well made straight-front corset. The bandage should not reach higher than the umbilicus, and in very thin or relaxed individuals a flat, wedge shaped pad covering the lower abdomen should be worn beneath it. *Usually at the end of six months or a year* the abdominal muscles become tense and well developed and the bandage can be discarded

DR. J M. BALDY believes that pessaries are in more than one way a positive factor for harm Operative measures for relief have their place, and the reason men are jumping constantly from one operation to another is due to the fact that these operations are being done for conditions other than displacements per se, conditions which, in reality, require no operation whatever or an entirely different class of procedure. Of course, under these circumstances the most perfect would fail. As to the operation which is the best for retrodeviations There is but one operation, in his opinion, that fulfills the anatomic and scientific indication even in part—the one done by Webster and himself This operation brings the round ligaments posterior to the uterus and unites them together back of it and attached to it at about the level of the internal os In doing this each round ligament perforates the broad ligament at a point directly under each ovarian ligament. The result is that the uterus lies forward in normal position (in the pubis, where it belongs) by gravity and puts strain on the surrounding round ligaments only at such times as the woman strains or assumes certain postures

DR. CHARLES P NOBLE believes that the field for the pessary is in the case of married women with retrodisplacements following labor For uncomplicated cases in the unmarried he suggests the Alexander operation. This operation is particularly adapted to women who have not been subjected to infection

DR. RICHARD C NORRIS believes that all of these operations are suspension operations and that sooner or later the uterus will retrovert unless other factors have been corrected. The Alexander operation has been his choice when it can be employed For the uncomplicated cases, i e, retrodisplacement in nulliparæ, unassociated with intrapelvic lesions, any and all suspension operations are liable to fail The condition is usually congenital Shortening the round ligaments, utilizing the thicker and stronger proximal portions of the round ligaments to suspend the uterus, has given Dr Norris the most satisfactory results

---

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

One Hundred and Second Annual Meeting, held at Albany, Jan 27 30, 1908

(*Continued from page 640*)

The Mosquito, Its Relation to Disease and Its Extermination.

DR. ALVAH H DOTY, Quarantine, S I., in 1900 began an investigation of the mosquitoes on Staten Island with the intention of securing such information as would lead to their extermination. In the first experiments a space of about one mile square in the center and north end of the island was mapped out This section was thickly invaded with mosquitoes In

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DR. A. JACOBI said that arteriosclerosis begins normally at 35 years of age, but it does not begin uniformly. The urine of every man and woman over 40 years of age should be examined, and no urine should be called normal that shows even a slight trace of albumin. He believes in a diet containing less of calcium salts than is generally given. The nitrites are in order and the lactated alkalies and lactic acid.

Diagnosis of Pulmonary Tuberculosis by Tuberculin and Other Tests

DR. LAWRASON BROWN, Saranac Lake, said it is dangerous to wait until the tubercle bacilli occur in the sputum for by that time there is ulceration of parts of the lung. The examination of the feces for bacilli is often of value. He gave the practical points in making a physical examination. The patient should be told to breathe out, to cough and then to breathe in, this gives rales that can not be obtained in any other way. The apices should receive more attention. Recourse should be had to the tuberculin test only after other methods of diagnosis have been exhausted. He thinks it has about the same value in tuberculosis that the Widal test has in typhoid fever. The ophthalmic test may prove of great value.

Acute Epidemic Anterior Poliomyelitis Occurring in New York City

DR. JOSEPH COLLINS and DR. THEODORE H. ROMEISER reported that this epidemic began in July and ended in October, there being as many as 1,200 or 1,500 cases. In this epidemic one case in 10 or 11 made good recovery and about one in 20 recovered absolutely. The anterior horns of the spinal cord were involved together with other portions of the cord, and even extended into the medulla and pons, the gray matter around the ventricles and into the cortex. Paralysis occurred in the abdominal and facial muscles as well as in the extremities. There were 202 males and 114 females affected. The dangerous age was between 1 and 3. The youngest patient was four days old and the oldest 15. Vomiting, constipation anorexia or thirst occurred in 114 cases, diarrhea in 11 and anuria in 21. In 104 cases one leg was involved, in 59 cases both legs, one arm in 12 cases and both arms in one. The abdominal muscles were involved in 5 cases. Rest was the early treatment, later, care as to posture. Massage, electricity and large doses of strychnin, intramuscularly, were of value.

County Laboratories and Their Uses.

DR. ORLANDO J. HALLENBECK, Canandaigua, said that in order to prevent the spread of certain infectious and contagious diseases, county laboratories should be provided. In January, 1906, their medical society appointed a committee of three to consider ways and means of establishing a county laboratory. The Ontario Medical Society appointed a similar committee, and these committees formulated a plan to bring about the desired result. Sufficient money was donated by a philanthropic woman in Canandaigua to erect and properly equip the laboratory provided the state donate sufficient money to employ a pathologist and bacteriologist, for this purpose $1,500 was asked. When it was learned that the board of supervisors had no control in the matter, they interested the senators and assemblymen and had passed an act giving the supervisors this power, and also obtained the required donation. The laboratory is now on a paying basis. They have a first class pathologist and bacteriologist and at the end of the first fifteen months they have a balance of $51 in the treasury.

DR. A. JACOBI, New York, thought that if every member of the legislature had a copy of the paper not one could refuse to grant the request. He recommended that a resolution accompanied by a copy of Dr. Hallenbeck's paper, be sent to every member of the legislature.

Such a resolution was then adopted and sent to the Council.

Intracranial Complications of Middle Ear Suppuration

DR. S. J. KOPETZKY, New York City, concluded his remarks as follows: 1. That intracranial complications result from contact of diseased bone with the dura, or they may come about from an invasion of the cranium through the labyrinthine or other anatomic channels. 2. That trauma, either accidental or surgical, may arouse into activity a latent intracranial lesion. 3. That intracranial lesions are generally, although not invariably, the result of an engrafted acute process on a chronic middle ear suppuration, especially if the chronic suppuration is a disease of the bone. 4. That intracranial invasion, when located in the posterior cranial fossa, will first have involved some part of the labyrinthine channels. 5. That involvement of the middle cranial fossa is more amenable to surgical treatment than when the posterior cranial fossa is the seat of the lesion. 6. That the earlier the surgical intervention the better the prospect of an ultimate recovery. 7. That the evacuation of the pus from the posterior cranial fossa without surgical relief of the purulent labyrinth is useless (when the labyrinth is involved). 8. That lumbar puncture as an aid to surgical treatment is of no value. 9. That no case should be considered as inoperable, as sometimes surprisingly good results have been obtained even in such. 10. That the radical mastoid operation should only be done when a positive diagnosis of bone necrosis is made. The mastoid operation should not be undertaken simply to attempt a cure of a persistent purulent otorrhea.

Chronic Middle Ear Deafness

DR. W. SOHIER BRYANT, New York, stated that the vast majority of these cases can be improved. Those that can not, are cases of malformation of the middle ear, cases of advanced stapes fixation and cases of extremely advanced otosclerosis. Chronic deafness from middle ear suppuration, either present or past, can always be helped by treatment. The amount of improvement depends on the power of the patient to make repair, and on the power of the physician to substitute parts which have been lost. The aim of treatment should be first, to correct conditions in the Eustachian tube, and then defects of the middle ear. Trophic disturbances are the cause of stapes fixation and these disturbances, as well as their recurrences, must be checked. Suppuration rarely occurs independent of nasopharyngeal disease. If suppuration has begun, the hearing may be preserved by stopping the suppuration and treating the nasopharynx. Where there is deafness, if any suppuration exists, it must be arrested immediately. It is necessary to adjust mechanical appliances to compensate for parts that are lost. Adhesions should be loosened. Twenty four cases were reported, of which nine showed the three conditions caused by chronic middle-ear deafness treated in nine different ways with success. Thirteen showed various forms of middle-ear catarrh which gave good results, though treated in different ways. His principles of treatment are the removal of obstructions, stimulation and exercise.

Medical Libraries for Smaller Centers

DR. SMITH BAKER, Utica, stated that in nearly five hundred incorporated villages and all but seven of the cities of New York State there is not a medical reference and circulating library. He showed that where each physician purchased his own periodicals he often duplicated the matter, wasted his money and was, after all, inadequately supplied. He urged that the state society should do what it could to stimulate the organization and growth of medical circulating libraries in all centers, large and small. The idea should be advertised and encouraged. The State Library at Albany should be encouraged to stand in a helpful relation to this enterprise.

An Efficient Operative Procedure in Malignant Disease of the Skin.

DR. SAMUEL SHERWELL, Brooklyn, has used this method for thirty five years, with good results and comparatively few recurrences. The method consists in thorough, deep and efficient curettage followed by the application of an escharotic. He prefers a 60 per cent solution of acid nitrate of mercury. It is necessary to neutralize this by some alkaline medium, as sodium bicarbonate. A scab is thus formed which is allowed to remain until it falls off or is pushed off by the repair process that is going on beneath. The knife may be preferable in pendant or loose portions of the body, as the penis, the ears, the lips etc., though curettage is preferable even in many of these cases. He does not advocate x ray treatment on account of expense, time and uncertainty of results. One can only

Original Articles.

MEASUREMENT AS THE BASIS OF DIAGNOSIS OF THE FURCOCERCOUS CERCARIÆ

BY FRANK MILTON

Late Professor of Clinical Surgery Egyptian Government Medical School Cairo

MEASUREMENTS in such contractile bodies as Cercariæ are necessarily open to inaccuracies, yet the study of those of the *Furcocercous cercariæ* recorded by different authorities has yielded such marked and unexpected results that they seem worthy of record the more especially as they would seem to enable us to lay down the long desired definition of a Schistosome cercaria

Up to the present no one has laid down definitely what is and what is not a Schistosome cercaria It is generally accepted that they are *Furcocercous cercariæ* without a pharynx and containing well marked "mucin glands" grouped in pairs around the acetabulum, from which well defined ducts, capped with hollow piercing spines lead to open at the margin of the opening of the "head gland," and with an excretory system built up of symmetrically placed 'flame cells," capillaries, collecting tubules, excretory bladder and excretory ducts, but with the exception of the absence of a pharynx these characteristics are common to a number of organisms having no pretension to being schistosomes

The records upon which this paper is founded are merely those which I have been able to collect from time to time and are by no means exhaustive They refer to but 22 species of *Furcocercous cercariæ*, but they have the merit of having been taken in Egypt India, the Cape and both North and South America, and are thus representative of the parasites found in widely separated parts of the world

In spite of the different conditions and methods under which these measurements have been recorded, they all are capable of being brought into certain well defined classes, and the grouping thus arrived at appears to be supported by a similar grouping of the molluscan hosts in which the individual cercariæ develop

An objection might be raised that the classification here attempted is arranged on a basis of larval, and therefore, decidual parts of the organisms classified instead of upon adult and permanent structures

The force of this may be admitted, but, on the other hand, outside the larval structures, there is very little in the anatomy of the cercariæ by which they can be contrasted The genital system is the merest of rudiments, the alimentary system is undeveloped and stops short at a more or less defined fore-gut which even in the most advanced specimens does not proceed much beyond the early division of the "cæca" and in no case extends beyond the level of the acetabulum, the nervous system is an undefined symmetrical mass and the excretory system is undergoing a process of rapid development and fundamental change

The measurements used in the following tables are —

1 The length of the body of the parasite
2 The length of the stem, or undivided part of its tail
3 The length of the flukes or rami of the tail

TABLE 1

Measurements of certain *Furcocercous cercariæ*

		Body	Stem	Rami	Ref
	e C polonicæ	12	18	4	1
	e C bombayensis No 8	13	24	6	2
P	e C bombayensis No 9	22	32	30	2
	e C bombayensis No 13	35	85	35	2
	e C bombayensis No 19	38	43	29	2
P	e C Bahr & Fairley No 1	12	19	15	1
P	C douglasi	14	18	16	3
	e C elephantis	16	59	11	3
P	C emarginatæ	16	23	20	3
? P	o C gracillima	13	6 5	6 5	4
P	C gladii	11	19	15	5
	e C gigas	28	32	18	6
	C hæmatobii	24	20	8	7
	C indicæ XXX	20	22	9	8
	C japonici	10	10	0 5	1
	e Kemp "B'	19	20	6	9
	e Kemp "C"	20	30	12	9
	C. mansoni	14	27	8	10
? P	o C minor	14	20	20	6
	C spindalis	20	29	10	11
	C spinosa	16	24	8	12
	C tuberistoma	20	16	16	4

In the above Table P means Pharynx present

? P means Rudimentary Pharynx present
e , Pigmented Eye-spots present.
o „ Unpigmented Eye-spots present

The differences to be observed are the relative lengths of these parts of the organisms, and this would appear to lead to the division of the specimens into the following natural Groups —

Group I Cercariæ in which the rami of the tail are markedly shorter than the stem, the difference being as 1 to 2 or even greater, and in which the body whilst it is longer than the rami is shorter than the stem

NOTE

This latter is not strictly true of the measurements given for C japonici, but since everything else demands the inclusion of this cercaria in this particular group, and since no more than an allowable margin of error, the substitution of 8 or 9 for 10 in the observation is necessary to bring it into complete conformity, I think this error may safely be assumed, the more especially as the observation on which the record used is based is not an original one and indeed contains another obvious error

Group II Cercariæ in which the rami and stem are nearly equal, the stem being slightly

or rich, nor whether he lives in a palace or in a poorhouse—the same rule applies in both cases The poor and needy are as much protected by the law as the rich and strong Certainly the statute makes no distinction or exception, and the court does not feel justified to write such exceptions into the statute

It necessarily followed from what has been stated that neither of the two physicians was competent to testify to any information he acquired while acting in his professional capacity

The court also holds that the same principle of privileged secrecy applied to the testimony of a third physician, who had some kind of arrangement by which he had access to the hospital, and the right to examine patients, select such as he wished and take them into an operating room for use in the clinics which he had authority to hold in the institution in which the plaintiff was confined. It appeared that he approached the plaintiff while in bed, pulled up the cover, looked at her leg, and advised her physician to have it amputated at that time, because he thought she had either sarcoma or tuberculosis, and whichever it was in his judgment, it would have to be amputated. The court says that it can not concur with the defendant in its contention that the relation of physician and patient never existed between the plaintiff and physician simply because he never treated her, nor ever intended to do so The record showed that he was rightfully in the hospital, was exercising authority over the patients, examining their persons, advising treatment, and removing patients from their wards to the operating room for clinical purposes, and all this with the knowledge and consent of those in charge of the institution If he was not rightfully there, then he was not only a trespasser in the institution but was guilty of the crime of assault and battery by approaching the plaintiff's bed, where she was lying, and pulling up the covers and exposing her person and making the examination The court will not presume he was guilty of a crime, because the law presumes every one innocent until he is proved guilty beyond a reasonable doubt Besides all this there was no evidence in this record tending to show but that the plaintiff thought and believed he was one of the attachés of the institution and, as such, had the authority to do what he was doing there

It is not necessary in order to create the relation of physician and patient that he should actually treat the patient. If he makes an examination of the patient, with her knowledge and consent she believing that the examination is being made for the purpose of treating her, then the relation is created by implication, and it is wholly immaterial what the secret object or purpose of the physician was in making it, and, in the absence of evidence to the contrary the plaintiff had the perfect right to assume and rely on the assumption that the physicians who were apparently in charge of the hospital were rightfully there, and, as such, had the authority to examine and prescribe for her and this one would not afterwards be heard to say he was not connected with the institution and had no authority to examine or treat her If such a thing as that could be done, then the privilege accorded the patient could be taken from her by trick or fraud

Nor does the court consider the records of the hospital were admissible in evidence over the plaintiff's objection It says that the diagnosis of the case was made by an examination of the patient and by interrogating her regarding the complaint This is necessary to be known by the physician in order that he may prescribe the proper treatment, and when he once acquires that information the law declares it to be confidential communications, and disqualifies the physician from divulging the same on the witness stand Mr Elliott, in his work on Evidence, in the discussion of such statutes, says "It seems to be conceded by both opinions that hospital physicians, who attend such persons at the hospital, could not testify as to what they learned while so attending him"—I Elliott on Evidence Section 635 This is undoubtedly the rule as announced by all the authorities, and, that being so, it seems that it must follow as a natural sequence that when the physician subsequently copies that privileged communication on the record of the hospital, it still remains privileged If that is not true, then the law which prevents the hospital physician from testifying to such matters could be violated both in letter and spirit, and the statute nullified, by the physician copying into the record all the information acquired by him from his patient, and then offer or permit the record to be offered in evidence containing the diagnosis, and thereby accomplish, by indirection, that which is expressly prohibited in a direct manner

The mere fact that the ordinance of the city requires such a record to be kept is no reason on earth why the statute regarding privileged communications should be violated That record is required to be kept for the benefit of the institution, and not for the benefit of outside litigants It is not the subject or purpose of the ordinance to repeal the statute in question, but even if it were it would be null and void, because in conflict with the statute The object of the statute is to guarantee privileged communications between all patients and their physicians, and it is wholly immaterial whether they are in or out of hospitals The only case where the patient is denied the protection of this statute is where his or her case falls under the rule of necessity

Contract of Health Officer for Services in Epidemic Is Invalid.

The Appellate Court of Indiana, Division No 1, says, on the appeal of City of Greenfield vs Black, that the latter named party, a resident of the city of Greenfield, and secretary of the board of health thereof, sued said city for compensation for services alleged to have been rendered by virtue of a contract with said city during an epidemic of smallpox in the year 1902 Among others things, he averred that there was no hospital or other place where persons affected could be treated, that for the protection of the citizens of the city, and for the preservation of the lives and health of those effected, it was very urgent that persons so affected should have proper medical treatment, that the ordinary physicians of said city would not undertake such treatment, and that persons affected were wholly without medical aid unless the city authorities provided it, that the plaintiff was secretary of the board of health of said city, but not required to take on himself the treatment of such persons, that the mayor and common council requested him to attend on such persons, that, by reason of the request, he did so treat such persons for a period of 71 days, that his services were worth $20 per day, that no part of said sum has been paid and the persons treated were unable to pay the same. Judgment was asked in the sum of $2,000 There was a trial by jury and a verdict for the plaintiff in the sum of $850 The city appealed and got the judgment reversed, with order for a new trial

One of the reasons assigned for a new trial was that the verdict was contrary to law It was shown by the answer, and by the proof as well, that the plaintiff was at and during all the time the services were rendered for which this action was brought the health officer of the city of Greenfield By section 52 of the Indiana act for the incorporation of cities it is provided that "no member of the common council or other officer of such city shall, either directly or indirectly, be a party to or in any manner interested in any contract or agreement with such city for any matter, cause or thing by which any liability or indebtedness is in any way or manner created against such city, and if any contract should be made in contravention of the foregoing provisions, the same shall be null and void" There could be no doubt that the plaintiff was an officer of the city within the meaning of the statute as quoted The statute not only prohibits the making of contracts such as that in issue, but it provides that, if made, the same shall be void It applies to all contracts, both express and implied

Nor does the court agree with the contention that there was such an emergency in this case that it created an exception to the statutory prohibition It says that whenever a duty devolves on the authorities to supply medical treatment and attention as in the cases where the public welfare must be protected or indigent patients are unable to procure such treatment or attention the authorities are empowered to employ such medical assistance But, in order to justify the employment of a physician, who is within the positive inhibition of a statute, there must exist such an actual emergency that it would be manifestly unjust to delay action in order to comply with the strict requirements of such statute And the right

The intermediary hosts of the sub-group present considerable diversity, but even here it will be noted that Limnæa is common to four out of the six forms, Planorbis to three, and Bullinus with its sub-genus Physopsis to four

NOTE

The true position of the host of C indicæ XXX and C spindalis is not accurately defined They both develop in what has been known as Planorbis exustus, a form which Annandale (13) claims is not a Planorbis and which he has isolated as a new genus to be called Indoplanorbis and which, according to him, is, anatomically nearer to Bullinus than to Planorbis

GROUP I

SUB-GROUP B

C. polonicæ	develops in	Planorbis and	Melania
C. bombayensis No 8	,	,	Limnæa
D bombayensis No 13	,,	,	
C bombayensis No 19			
C. elephantis	,		Limnæa
C gigas	,		Physa
C. Kemp "B	,	Gyraulus	(Planorbinæ)
C. Kemp "C"	,	,,	,,

All the forms in this sub-group develop in Planorbis or its sub-genus Gyraulus, with the single exception of C bombayensis No 19, and seeing that this form has only been found on a single occasion and that other members of the sub-group have most of them been found in a second or alternative host, it is by no means improbable that the true host of C bombayensis may be Planorbis and that Limnæa is only its alternative host

GROUP II

SUB-GROUP A

C emarginatæ	develops in		Limnæa
C Bahr and Fairley No 1	,,	Bullinus	
C douglasi	,,	,,	Limnæa
C. gladii	,,	,	

A uniformity which is complete if C emarginatæ has so far been found only in its alternate host Limnæa, which is also the alternate host of C douglasi

GROUP II

SUB-GROUP B

C bombayensis No 9 develops in Planorbis

GROUP III

SUB-GROUP A

uberistoma develops in Physa gyrina

GROUP III

SUB-GROUP B

illima develops in Physa gyrina

" " "

in the whole of this group is uniform
nus and species
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sis is mixed up with the ques-
ty and of the completeness of

There is no longer any doubt, but that the *Furcocercous cercariæ* do show a marked adaptability to new molluscan hosts, otherwise we should never find so many of them thriving in two different families such as Bullinus and Limnæa, Planorbis and Physopsis, Planorbis and Limnæa, Planorbis and Physa and even in different orders as Hypsobia and Limnæa, and Planorbis and Melania, and we are only too well aware that research is by no means complete and that further hosts are likely to be found

It is interesting in this connection to note how frequently Limnæa crops up as the intermediary host of these *Furcocercous cercariæ*, irrespectively of the (?) primary host of the parasite It does not appear to be the sole host of any one form (except C bombayensis No 19, but as this has only been found on a single occasion, the fact is not conclusive) but it is associated as alternate host with Bullinus, Physopsis, Planorbis, Gyraulus, Hypsobia and Melania One wonders whether Limnæa might not have been the original host of the primitive form and all other hosts adaptations only

In conclusion it is to be noted that Group I, Sub-group A, contains all the at present known Schistosomes parasitic in man together with C spindalis, a Schistosome of bovines, and the uncertain forms C indicae XXX and C spinosa Group I, Sub-group A then contains only Schistosomes parasitic in mammals

Group I, Sub-group B contains only A-pharyngeal eye-spotted forms and probably represents the true Schistosomes parasitic in birds

Groups II and III, consisting of forms with a more or less well developed pharynx are not Schistosomes and as the subsequent development of none of them has yet been made out we cannot say what they are.

Should further research uphold the classification here noted we shall have arrived at a definite definition of a Schistosome cercaria as being a *Furcocercous* distome cercaria characterised by the absence of a pharynx and having a tail, the rami of which are less than half the length of the stem, and with a body intermediate in length between the stem of the tail and its rami

REFERENCES

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2. Soparker Notes on Some Furcocercous Cercariæ *Ind Jl of Med Res*, Vol IX, pp 23—32

3 Cort Homologies of the Excretory System of Forked Tailed Cercariæ. *Jl of Parasit*, Vol IV, pp 49—57

4 Faust Notes on the Cercariæ of the Bitter Root Valley *Jl of Parasit*, Vol III, pp 105—123

5 Cawston The Problem of Bilharziasis in South Africa. *Jl R A M C*, Vol XXXIV, pp 439—441

6 Faust. Studies in Illinois Cercariæ. *Jl of Parasit*, Vol IV, pp 93—110

7 Porter The Experimental Determination of the Vertebrate Hosts of some South African Cercariæ *Med Jl South Africa* Vol XV

8 Sewell The Possible Occurrence of Sch japonicum in India Rec. Ind. Museum Vol XVI, pp 425—429

beneath the peritoneum, necessitating a laparotomy The author insists on leaving patients with pelvic exudates alone He is convinced that many will do as well under prolonged rest in bed and ice locally as under any other measures Bacteriemia occurring before delivery is very ominous. From the start the pulse usually has a rate of 120 or more, but in nervous women the value of the pulse count holds good only when taken during sleep Chills are repeated, temperature is fluctuating, there is restlessness usually, but not always delirium, lochial discharge is diminished or absent, and is odorless, usually there is complete absence of abdominal pain The treatment of the future will probably call for the earliest possible hysterectomy, but with streptococci or staphylococci in the blood Brothers holds that the patient's chances are slim any way The results of Wright's treatment are indecisive at present Antistreptococcic serum has been disappointing in Brothers' hands The gonococcus type of the disease is usually mild and terminates in recovery under prolonged rest in bed Pus tubes, of course, call for removal Phlegmasia alba dolens calls for prolonged rest in bed, no rubbings or ointments and elevation of the limb Clinically, the cases with general peritonitis can be classed by themselves Simple intestinal paresis with abdominal distension must not be mistaken for peritonitis A positive diagnosis, with the patient in fair condition, he thinks is best met by laparotomy The Alonzo Clark opium treatment he has no use for except for euthanasia The liberal use of ice bags to the abdomen will often cause complete recovery or result in the localization of pus Care must be taken, however, not to produce sloughing

15 **Vaccination in the Far East.**—On returning to America after twenty years in the Far East, Braddock was utterly astonished to read articles in papers denying the protective power of vaccination against smallpox and to learn of so much opposition from parents and of the activity of the antivaccinationists He wishes he could show them some of the results of vaccination in Siam and the Malay Peninsula He attempts to describe them One province with a present population of only 600 000 has lost 100 000 from smallpox alone in the last thirty years The epidemic of 1903 was responsible for a death rate of 10 000, and these epidemics recur every few years Dr Braddock and Dr Adamson in 1903 after nine months of long failure and disheartenment, succeeded in making good vaccine A few weeks after the first successful vaccine was made an epidemic broke out in Tatchin In thirty days, before they were notified, 145 children died of the disease, which means about 500 cases A fast steam launch was dispatched, and in a few days 4,000 people had been vaccinated The epidemic was instantly stopped Not a person was attacked after the vaccinating, and those who were then incubating the disease had it in a very mild form Tatchin has never known smallpox since

Lancet Clinic, Cincinnati.

February 8

19 *Mechanism of Spontaneous Version W Gillespie Cincinnati.
20 *The Fallacy of Osteopathy D O Weeks Marion Ohio
21 Dietetic Treatment for Constipation F L. Rattermann Cincinnati

February 15

22 *Psychoses of Pneumonia. C J Aldrich Cleveland Ohio
23 History of Physiology F H Lamb Cincinnati
24 Sleep J Burke Manitowoc, Wis

19 **Spontaneous Version**—Gillespie discusses thoroughly the subject of obstetric spontaneous version In his opinion the spontaneous version of premature or unduly flexible children is due to excessive flexibility of the cervical and upper dorsal vertebræ The child, under these circumstances, passes through the complete process of turning without presenting a shoulder at the superior strait, because the fetal limbs are folded within the circle formed by the excessively flexed child, and the back presents to the uterine surface during the complete evolution He has never seen this form of version described but has seen it frequently in late abortions, and has been accustomed to utilize the mechanical facts thus gained in hastening the termination of such cases.

20 Abstracted in THE JOURNAL, Sept 28, 1907, page 1179

22 **Psychoses of Pneumonia**—Aldrich says that the pneumonic psychoses may manifest themselves at any one of five periods in the course of the disease He describes them in detail under the subheads, prodromal delirium, initial delirium, pyrexial delirium, posteritical delirium, collapse (exhaustion) delirium, and postpneumonic psychoses

Journal of Infectious Diseases, Chicago

January

25 *A Study of Typhoid Opsonins. C P Clark and J P Simonds Chicago
26 *Opsonic Index in Diphtheria R Tunnicliff Chicago
27 *Splenomegaly and Banti's Disease Report of Case J P Simonds Chicago
28 *The Similarity Between Blood Platelets and Certain Hematozoa. L D Swingle Omaha Neb
29 *Qualitative Changes in the Third Serum Component. H W Manwaring Bloomington Ind
30 *Factors in Hemolysis Id
31 *Significance of Leucocytes and Streptococci in Production of High Grade Milk M E Pennington and E L Roberts Philadelphia
32 *Review of Anaphylaxis With Especial Reference to Immunity M J Rosenau and J F Anderson Washington D C

25 **Typhoid Opsonins.**—Clark and Simonds find that after heating normal human and rabbit serum to from 56 to 58 C, there persists in these sera in appreciable degree the power to promote phagocytosis of typhoid and paratyphoid bacilli by washed human leucocytes As the result of spontaneous infection, as well as of artificial inoculation with these bacilli, this power of the serum may undergo profound modifications and may be augmented in very high degrees The exact determination of this opsonic power with respect to typhoid bacilli in the course of typhoid fever was found, on account of inconstancy and variations in the induced and spontaneous phagocytability of the typhoid bacillus, to present many difficulties which demand much further study With respect to paratyphoid bacilli, the variations of the opsonic power of the serum of typhoid fever patients are more easily determined and appear to follow a fairly typical course, for the opsonic index, as determined by comparison of heated normal and typhoid sera, is high early in the disease when the patients ordinarily come under observation and approaches normal more or less gradually as convalescence sets in In rabbits injected with either dead typhoid bacilli or dead paratyphoid bacilli there develop in each case immune opsonic substances for both these organisms, these substances, however, appear to be largely specific, no matter whether produced in response to the injection of the one or the other of the bacteria

26 **Opsonic Index in Diphtheria**—Contrary to Wright and others, Tunnicliff shows that the diphtheria bacillus is sensible to the opsonic action of human and rabbit blood serum It was found that in diphtheria the opsonic index for diphtheria bacilli is generally below normal at the onset of the disease As the membrane disappears and the symptoms subside, the index rises considerably, returning to normal in from two to nine days In the majority of cases there is a rise in the streptococco opsonic index in diphtheria, but the indexes for diphtheria bacilli and streptococci rarely correspond The injection of dead diphtheria bacilli in suitable number into rabbits is followed by a marked rise in the index By diluting the normal and the immune serum until phagocytosis practically ceases, the comparative opsonic power of the sera on diphtheria bacilli can be measured The curves representing the opsonic power determined in this way correspond almost exactly with the curves of the opsonic indexes estimated by Wright's method thus showing that Wright's method, after all is not altogether unreliable The suggestion is made that the injection of dead diphtheria bacilli may prove of some service in ridding the throat of bacilli, in the case of chronic carriers and convalescents, as the experiments show that in rabbits such injections are harmless and at the same time cause decided increase in the opsonic power of the blood on diphtheria bacilli

27 **Splenomegaly**—Simonds summarizes his study of splenomegaly and Banti's disease as follows "While there may be some just question whether or not all the cases here collected are properly classified, there can be no doubt that there are

Another important point is the influence of the animal's food For instance, the milk of a cow fed on oil-cake will not be as rich in Vitamin A as that of one fed on grass In fact, the more we rely on artificial feeding for man and animals the more surely do we introduce the factor of vitaminic deficiency To quote McCarrison, "the degree of departure from the fresh raw natural foodstuffs is the measure of food deficiency in total vitamin-value"

The rôle of vitamins in tropical diseases may be discussed under two main heads, *viz* —

(1) The effect of general vitaminic deficiency in interfering with digestion, absorption and utilisation of foodstuffs, thereby producing a state of malnutrition and lowering our resistance to infection

(2) The specific effect of the absence of certain classes of vitamins, causing the so-called deficiency diseases

(1) *The effect of general vitaminic deficiency in interfering with digestion, absorption and utilisation of foodstuffs, thereby producing a state of malnutrition and lowering our resistance to infection*

This aspect of the subject has been specially studied by McCarrison Naturally the gastro-intestinal tract is first considered His experiments include observations on pigeons, guineapigs, and monkeys fed on diets deficient in one or more classes of vitamins Among the morbid pathological changes found were congestion, hæmorrhage, atrophy, and necrosis of the bowel walls, mainly affecting the proximal parts of the intestine, particularly the duodenum Degenerative changes were noted in the nerve plexus of Auerbach and in the lymphoid tissue of the intestinal wall In monkeys particularly there was evidence of bacterial invasion of the bowel wall and enlargement of the mesenteric glands

McCarrison sums up the intestinal disorders resulting from deficient dietaries as follows —

"(*a*) Congestive, necrotic, and inflammatory changes in the mucous membrane, sometimes involving the entire tract, sometimes limited to certain areas

(*b*) Degenerative changes in the neuro-muscular mechanism of the tract, tending to dilatation of the stomach, ballooning of areas of small and large bowel, and probably also to intussusception

(*c*) Degenerative changes in the secretory elements of the tract—of the gastric glands, the glands of Brunner, the glands of Lieberkuhn, and of the mucous glands of the colon These changes are such as must cause grave derangement of digestive and assimilative processes

(*d*) Toxic absorption from the diseased bowel as evidenced by the changes in the mesenteric glands

(*e*) Impairment of the protective resources of the gastro-intestinal mucosa against infecting agents, due to hæmorrhagic infiltration, to atrophy of the lymphoid cells, and to imperfect production of gastro-intestinal juices This impairment results not only in infections of the mucous membrane itself, but permits of the passage into the blood-stream of micro-organisms from the bowel"

Other digestive organs are also affected The salivary glands always show some degree of atrophy The essential elements of the liver are invariably atrophied although there may be an increase in size due to passive congestion, and, as a result of infection Perhaps the most marked changes are seen in the pancreas which is always markedly atrophied

The importance of these observations in relation to the gastro-intestinal disorders of the tropics cannot be overestimated It is possible, if not probable, that many diseases, such as colitis, dysentery, sprue, and even cholera are primarily due to deficiency of vitamins which render invasion of the bowel walls by the specific organism possible Congestion and inflammation of the liver, and pancreatitis leading to diabetes may also have their foundations laid in this manner

In this connection McCarrison writes, "the absence of vitamin B is capable of producing pathological changes in the intestinal tract which frequently assume the clinical form of colitis" Mackenzie Wallis (2) has described changes similar to those produced in animals by deficient diets, in cases of infantile diarrhœa It is easy to establish a vicious circle in such cases—many of these disorders are treated by starvation in some degree, and the deprivation of vitamins thus intensified

As regards other systems McCarrison found the endocrine organs markedly affected The majority atrophy especially the thymus gland The reproductive organs too undergo extreme atrophy in some cases The adrenal and pituitary glands are an exception to the rule The former particularly undergo hypertrophy It is important, however, to note that deprivation of all food, or of proximate principles only, brings about a similar hypertrophy Thus hypertrophy is associated with a total increase in the epinephrine content of the gland and has an important bearing on the causation of the œdema of epidemic dropsy In fact Ohno has observed medullary hypertrophy of the supra-renal glands, and increase of their epinephrine content in beri-beri

Cardiac atrophy is described by McCarrison as "a conspicuous feature of the morbid states resulting from a diet of milled rice" In human beri-beri on the other hand hypertrophy of the heart is the rule This has been used as an argument against the deficiency theory of beri-beri, but it seems to me that the adrenal hypertrophy and its relation to wet beri-beri forms an even stronger argument in its favour Besides, in birds at any rate, as pointed out by McCarrison, there is a difference in the distribution of the augmentor nerves and the action of epinephrine on the heart which may account for the ventricular atrophy

The kidneys are not much affected and only degenerative and congestive changes were noted in the bladder

wisdom of nose examination in any case of traumatism about the head when the history is at all doubtful.

Philippine Journal of Science, Manila.

October 1907

49 Kubisagari or Vertige Paralysant. K. Miura Tokyo Japan
50 *Investigations Carried on by the Biologic Laboratory in Relation to the Suppression of the Recent Cholera Outbreak in Manila R. P. Strong Manila
51 *Treponema Pertenuis Castellani of Yaws and Experimental Production of the Disease in Monkeys P. M. Ashburn and C. F. Craig Manila
52 *Histologic Study of Yaws H. T. Marshall Manila.

50 Cholera in Manila.—Strong describes the methods employed in bacteriologic diagnosis the preparation and furnishing of cholera immune sera for diagnosis, the prophylactic inoculations and the efficiency thereof. The advantages of this prophylactic lie in the almost entire absence of local reaction, which renders it possible to inject from fifteen to thirty times as much as would be practical if either living or killed bacteria were inoculated, a higher immunity is thus obtained, and the prophylactic may be stored in flasks and preserves its properties for at least a year. The great disadvantage is the extreme care that is necessary in each step of the manufacture. The statistics are not sufficient to demonstrate conclusively its protective power, but after inoculating one sixth of the population of a village, 1,078 in number, when cholera appeared a few months later, out of 122 persons stricken 121 were among the non inoculated. In 3 other villages only 3 out of 2,706 persons inoculated were stricken, but there has not been sufficient cholera in these localities to justify conclusions. In Bilibid Prison, 1,838, or over half the inmates, were inoculated. Out of 24 cases of cholera only 4 were among the inoculated. Strong then reviews recent work on the subject of protective inoculations against cholera, discussing the local reaction following inoculation, the size of the dose and the standardization of the prophylactic, the immunizing power and virulence of the organism and the serum treatment of cholera.

51 The Micro-Organism of Yaws.—Ashburn and Craig, as the result of their clinical and experimental observations, conclude, among other things, that *Treponema pertenuis* is the cause of yaws, and that it is constantly present in the serum from yaws lesions, that its morphologic variations are due to artificial deformities produced during the preparation of the serum, that the *Treponema pertenuis* and *Treponema pallidum* can be differentiated by the results obtained from the inoculation of monkeys, that yaws and syphilis are distinct diseases and that *Treponema pertenuis* can be demonstrated in sections of yaws papillomata by the Levaditi method.

52 Yaws.—Marshall has examined histologically the tissues from the cases in the preceding paper, and from a study of these specimens concludes that we are dealing with a primary degenerative change resembling colliquative necrosis, affecting the epithelial structure, and caused by spirochetes, which are very abundant in the necrotic material at least at some stage of the disease. The degeneration leads to ulcer formation. Following the degeneration there is irregular new formation of epithelium in the form of downgrowths which often degenerate. Accompanying these changes vascular dilatation, edema and leucocytic infiltration occur in the corium, with a minor degree of new formation of capillaries and connective tissue. There is no endarteritis, neither are there any other changes suggestive of syphilis. The majority of the infiltrating cells are polymorphonuclears at an early stage of the lesion, while mononuclears, many of which are of the plasma cell type, are almost equally abundant. In the tissue from the human being the plasma cells outnumber the polymorphonuclears. Polymorphonuclear eosinophiles are abundant and have a peculiar distribution. The changes are essentially the same in lesions from monkeys and human beings.

Texas State Journal of Medicine, Fort Worth.

January

53 *Functional Relation of the Parathyroids to the Thyroid. W. S. Carter Galveston.
54 Surgical Anatomy of the Parathyroids in Man. W. Keiller Galveston.
55 *Medical Expert Testimony. P. A. Martin Graham.
56 Pneumococcic Mastoiditis in the Recent Influenza Epidemic at Dallas. H. B. Decherd Dallas.

53 The Parathyroids.—Carter investigates the relation of the parathyroids to the thyroids experimentally and concludes that the parathyroids are more essential to life than the thyroids. When both sets of bodies are excised the acute nervous symptoms are probably due to toxemia resulting from disturbance of proteid metabolism. On the other hand, the removal of both thyroids in the dog, whether at one or two operations, produces no symptoms, even after two or three months, provided the external parathyroids remain. The subsequent removal of one or two remaining parathyroids is promptly followed by tetany and death in ten days. As a practical lesson, Carter urges that in operating on the thyroid every effort should be made to save the parathyroids, and suggests that probably many of the fatal results from operations on the thyroid have really been due to removal of the parathyroid or to the cutting off of their blood supply.

55 Medical Expert Testimony.—Martin suggests that the expert be made an officer of the court, appointed to try the special issue, that specialists in the particular line should be chosen by the judge trying the case and that the decision by the experts be final.

Colorado Medicine, Denver

January

57 *Periarthritis of the Shoulder G. B. Packard Denver
58 Bone Cavities and Interspaces and Their Treatment H. G. Wetherill Denver
59 Relation of Vaccine Therapy to Surgery B. H. Matthews, Denver
60 Results in Cases of Amputation of the Shoulder Joint. C. A. Powers Denver

57 Periarthritis of the Shoulder.—Packard considers certain common though obscure lesions of the shoulder, characterized by pain and impairment of function and restriction of abduction and rotation, so that the arm can not be put behind the neck or the small of the back. Various diagnostic names have been given, but the uniformity of the symptoms leads Packard to suspect that there is a constant lesion giving rise to this symptom complex, which he calls periarthritis of the shoulder. He discusses its relation to an inflammatory condition of the subdeltoid bursa, and believes that in some instances the important lesion is a tenosynovitis of the biceps tendon. Fixation and cauterization will generally relieve pain and subsequent disability, while massage and manipulation before the relief of pain and tenderness favor permanent pain and disability. In the chronic stage manipulation under ether, with subsequent abduction and external rotation of humerus, should be used.

Ohio State Medical Journal, Columbus.

January

61 *Surgical Pathology of Tuberculous Cervical Glands H. J. Whitacre Cincinnati
62 *Surgical Treatment of Tuberculous Lymph Glands. C. A. Sawyer Cleveland
63 *Medical Treatment of Tuberculous Cervical Glands J. P. Hamann Cleveland.
64 *Roentgen Treatment of Tuberculous Cervical Glands. W. C. Hill Cleveland
65 *Radical Operation for Removal of Tuberculous Cervical Glands J. H. Jacobson Toledo
66 Case of Chronic Partial Intestinal Obstruction Due to Adenocarcinoma of Cecum with Autopsy Findings C. D. Slagle Centerville
67 *Etiology of Psychoneuroses Commonly Called Traumatic Neurasthenia and Traumatic Hysteria. C. J. Aldrich Cleveland.
68 *Report of the Ohio League for the Suppression of Fraudulent Advertising D. R. Silver Sidney
69 Tri Chlor Acetic Acid in the Treatment of Diseases of the Nose. E. H. Porter Tiffin

February

70 Clinical Notes on Acute Dilatation of the Stomach or Arterio mesenteric Ileus W. B. Laffer Cleveland
71 Clinical Study of Five Hundred Gastric Cases. J. D. Dunham Columbus
72 *Surgery of the Stomach Based on One Hundred and Four Personal Cases G. W. Crile Cleveland.
73 Need of State Organization of Eye Ear Nose and Throat Practitioners M. D. Stevenson Akron Ohio
74 Lupus Erythematosus Its Differentiation from Eczema and Other Chemically Allied Affections M. I. Heidingsfeld Cincinnati
75 *The Fallacy of Osteopathy D. O. Weeks Marion.

61 Tuberculous Glands.—Whitacre discusses the pathology of tuberculous glands of the neck, and says that while occasionally tuberculous infection of the cervical glands is of

Effects of deficiency of vitamin "B"

It is generally believed that the growth promoting substance called by McCollum Water Soluble "B" is identical with the anti-neuritic substance, discovered by Casimir Funk and called by him Vitamin Foods are tested in three ways for the presence of this vitamin, *viz* —

(1) By determining their power to prevent or cure polyneuritis in pigeons or fowls

(2) By determining the proportion necessary in a diet to induce normal growth in a young rat

(3) By estimating their effect on the growth of yeast

That these methods estimate the same substance can hardly be considered to have been absolutely proved, but there are many points in favour of the theory, *e g*, their distribution is similar, absence of the one frequently causes symptoms similar to those arising from absence of the others, their solubilities are the same, they have the same precipitants and absorbents, and their stability is practically the same (Mitchell quoted by McCarrison)

Admitting the identity of these substances we find that deficiency in young rats causes cessation of growth, loss of weight, general weakness and eventually polyneuritis In the case of birds we find loss of weight and polyneuritis, and, in yeast retardation of growth McCarrison's results have already been described under another heading He finds little difference between pigeons deprived of the B vitamin only and those deprived of all three vitamins The symptoms observed in birds and mammals were similar and neuritis was always a late development

Before discussing the relation of this vitamin to disease, a word must be said about its physiological functions Practically all authorities agree that it acts as a metabolic stimulant For instance, Findlay (11) found a reduction in the glyoxalase content of the liver in polyneuritic pigeons, followed by an increase on administration of the vitamin Dutcher (12) found a decrease in the catalase content of the tissues resulting according to him in depression of body oxidations and formation of toxic metabolic products McCarrison (13) calls the vitamin a *nucleoplast* to emphasise its importance in nuclear metabolism Uhlmann (14) concludes that this vitamin stimulates secretion in the digestive and endocrine glands and compares its action to pilocarpine In fact Dutcher (15) has succeeded in relieving the symptoms of polyneuritic birds by feeding them with thyroid, pilocarpine, hydrochloride, and tethelin

The importance of a proper supply of vitamins A and B in reproduction is emphasised by many writers McCarrison showed that atrophy of the reproductive organs and sterility result from vitaminic deficiency The body is unable to synthesize either of these vitamins A can be stored in the body in considerable quantities, but B must be constantly supplied in the food McCollum has pointed out the importance of cow's milk as a source of both vitamins to the lactating woman

Diseases associated with deficiency of vitamin B —As already described, McCarrison has shown that vitaminic deficiency, more especially that of the B vitamin, may be primarily responsible for both acute and chronic gastro-intestinal conditions Among the acute conditions he includes infantile diarrhœa and dysentery (including jail dysentery) and refers to the frequent presence of pathogenic amœbæ and cysts in the stools of healthy individuals The chronic conditions include chronic gastro-intestinal dyspepsia, mucous disease, colitis, cœliac disease, chronic intestinal stasis, gastric and duodenal ulcer All of these conditions were noticed in animals fed on foods deficient in vitamins There are two tropical diseases however, which are specially associated with deficiency of this vitamin, *viz*, pellagra and beri-beri

Pellagra —The connection between food deficiency and pellagra has been established by Goldberger and his colleagues (16) and McCarrison points out the similarity of some of the pathological conditions found in this disease with those observed in his monkeys Sullivan moreover showed that Goldberger's experimental diet produced polyneuritis in fowls which would seem to prove a deficiency of the B vitamin McCarrison writes "consequently I am led to believe that pellagra may result either from deficient protein supply or from deficient protein assimilation consequent on vitamin deficiency or from a combination of both these causes"

We may therefore conclude that whatever the real cause of Pellagra, deficiency of this vitamin is an important factor

Beri-beri (including epidemic dropsy) — Numerous observers have shown that polyneuritis, gallinarium and columbarum can be caused by a diet deficient in the B vitamin—such a diet is one of polished rice Reasoning that polyneuritis in birds and animals and beri-beri in man are one and the same disease, a majority of observers believe that beri-beri is due to the same cause Braddon was the first to draw attention to the importance of rice Fraser and Stanton and others showed that it was milled rice, *viz*, rice from which the subpericarpal layers were removed which was the effective agent Hand milled rice and red rice did not cause the disease When Funk discovered his anti-neuritic vitamin the problem was thought to have been solved, but there are still some observers who think that there may be more than one operating cause, or else more than one form of disease is included under the name beri-beri

From his observations on pigeons McCarrison was led to divide polyneuritis in pigeons into three groups

(1) Cases solely due to avitaminosis

(2) Cases due to avitaminosis plus infection

(3) Cases due solely to an infecting agent (B suipestifer)

problem would be for each community to declare the distribution of milk a public service and employ its own servants A cooperative company might be started in any city by anyone at any time No particular breed of cows has yet been evolved for the special duty of providing milk, but the best milk for household use is not that which is richest in cream Native or grade cows are to be preferred to thoroughbreds for all round richness, flavor, and even balance of nutritive values

Northwestern Lancet, Minneapolis

January 1

85 Sanatorium Treatment of Pulmonary Tuberculosis H. L. Taylor St Paul
86 *Strangulated Hernia C C Allison Omaha
87 Unusual Case of Inguinal Hernia W F Keller Sioux Falls S D
88 *Treatment of Inebriety H Sneve St. Paul.
89 Hernia H J Pock Aberdeen S D

January 15

90 Surgical Therapeutics of Gastric Ulcer J T Rogers St Paul
91 Diagnosis of Organic Diseases of the Stomach T W Stumm St Paul
92 *Autointoxication as a Factor in Disease W J Maytum Alexandria S D
93 Indications for Technic of Hyperemia Work of Professor Bier J H Beaty St. Cloud Minn

86 Strangulated Hernia.—Allison considers the two stage operations in advanced cases of strangulated hernia safer than the primary complete operation, and later anastomosis safer than the end to end operation The postoperative dangers of ileus are many, and in strangulated hernia, which differs in this from the usual obstructive symptoms of appendicitis, the hope of escaping them by delay is groundless

88 Inebriety.—Sneve comments on Minnesota's plan to care for the slaves of alcohol and narcotic drugs He discusses the questions of psychology, heredity, alcohol, the classification of inebriates, the prognosis and the treatment, and expresses skepticism as to the possibility of inheriting a taste for liquor

92 Autointoxication.—Maytum discusses this subject clearly in its relation to disease Nearly all cases of melancholia and neurasthenia he considers to be forms of autotoxemia Elimination is the secret treatment He advises stopping all food and using saline laxatives and intestinal antiseptics, with charcoal to absorb the gases Restriction of food, however, is the sheet anchor

American Journal of Surgery, New York.

January

94 Hip Disease J Graham Durham N C
95 Operation of Grafting the Rabbit s Cornea on the Human Eye F Valk New York
96 *An Inguinal Colostomy Permitting Control of Intestinal Contents L F Garrigues New York.
97 Cases of Ovarian Tumors A Hall Mt Vernon Ill
98 Cases of Kidney and Urethral Stone G K. Swinburne New York
99 Appendicitis Ventral Hernia Old Dislocation of the Shoulder Tuberculous Adenitis of the Neck R T Morris New York
100 Restoration by Primary Operation of a Nose Mutilated by a Horse s Kick Support of Depressed Septum by Suspensory Suture W M. Brickner New York.

96 Inguinal Colostomy.—Garrigues has applied the gastrostomy operation of Ssabanajew Frank to inguinal colostomy with a view to obviating the disagreeable effects of leakage of feces fluid and gases He has performed the operation once, and while the patient lived only three days after operation (it was a case of cancerous masses), it seemed to answer thoroughly the purpose for which it had been devised A three inch incision is made through the left linea semilunaris at the level of the superior iliac spine, into the peritoneal cavity and a loop of the colon is pulled out A second incision, about two inches long, is made about two or three inches outside the first, and the subcutaneous tissue and the skin are undermined between the two incisions the exact position of the second incision depends somewhat on the length of the mesentery which should be put gently on the stretch A running suture is inserted between the peritoneum and deep fascia on the one side and the muscular layers of the intestines on the other at the base of the loop of intestine that has been pulled out The intestine is now drawn through from the first to the second incision underneath the bridge of skin and subcutaneous tissue A running suture is inserted, uniting the skin and the end of the loop of intestine to the second incision The skin and subcutaneous tissue of the first incision are now sutured The intestine is opened in the second incision if the case is an urgent one, but if possible twenty four hours should be allowed to elapse before the intestinal incision is made

Journal of Cutaneous Diseases, New York.

February

102 *Tropical Diseases of the Skin H Radcliffe-Crocker London
103 *Relation of the Navy to the Study of Tropical Diseases P M Rixey U S Navy
104 *Skin Diseases in the Negro H Fox New York

102 and 103 Abstracted in THE JOURNAL, Oct 12, 1907, pages 1304 and 1305

104 Abstracted in THE JOURNAL, Sept 28, 1907, page 1138

Archives of Pediatrics, New York.

January

105 Three Cases Illustrative of the Occurrence of Typhoid in the First Year of Life J P C Griffith Philadelphia
106 Case of Hemothorax in Infant Five Months Old Aspiration Recovery W P Northrup New York
107 Case of Myxedema. A. M Davis Germantown Pa
108 Cases of Subcutaneous Emphysema Following Exploratory Puncture of the Chest. J C Gittings Philadelphia
109 Tetanus Neonatorum Complicated by Pneumonia R O Clock Philadelphia
110 Examination of Incised Tonsils Case of Tuberculous Infection by a Bacillus of the Bovine Type A. F Hess New York
111 Epidemic Anterior Poliomyelitis in Philadelphia with an Analysis of Cases Occurring in the Past Four and a Quarter Years at the Children s Hospital R. S McCombs Philadelphia.
112 Indications For and Against Removing Adenoids and Method of Operating S W Thurber New York
113 Ocular Symptoms and Diseases Accompanying Adenoids C H May New York.
114 Adenectomy During Acute Middle Ear Disease P D Kerrison New York.

Archives of Ophthalmology, New York.

January

115 Case of Recurrent Palsy of the Third Nerve C E Finlay Havana Cuba
116 Extraction of Cataract in Capsule Report of a Visit to Major Henry Smith in Jullundor India A Knapp
117 Case of Fleeting Paralysis of Some Ocular Muscles J S Wyler Cincinnati.
118 Optic Neuritis After Disease of Posterior Ethmoidal Cells A Knapp
119 Anatomic Basis of Blindness Following Orbital Abscess. M Bartels, Marburg Germany

FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

February 1

1 *Inherited Syphilis R C Lucas
2 Unequal Distribution of Filariasis in the Tropics G C Low
3 Case of Severe Pethyma from Which the Diphtheria Bacillus Has Been Isolated A Fddowes and J G Hare
4 *Value of Cytodiagnosis in Practical Medicine J E H Sawyer
5 Acid Intoxication Following Ethyl Chlorid Anesthesia. H H B Cunningham
6 Development of Secondary Nodules in Suture Scars After Operations for Removal of Cancer C W M Moullin
7 Two Cases of Uretero-Pyeloplasty A H Burgess
8 *Severe Spasmodic Contraction of Finger Cured by Stretching Median Nerve. J Adams

1 Inherited Syphilis.—Lucas first discusses the three terms congenital, hereditary and inherited, as applied to this form of disease Congenital and hereditary he dismisses as not being universally true, preferring the term inherited, as implying only something derived from the parents which is detachable like a fortune or misfortune He describes the *Spirochæta pallida*, which is now generally accepted as the cause of the disease, and the discovery of which now puts inheritance from the father alone entirely out of court, as well as the possibility of the infection of a mother by her syphilitic fetus, for it seems impossible that a highly motile organism exceeding in length the diameter of an ovum, could possibly penetrate and multiply in it without destroying it Therefore he lays it down as an axiom that inheritance is invariably through the syphilized mother which conclusion is supported by Colles' law When virulent the spirochetes penetrate the chorion or placenta and occasion miscarriages, macerated

Several observers, notably Zilva and Wells (22), have reported changes in the teeth, even before the development of other definite symptoms of scurvy, and the suggestion has been made that deficiency in this vitamin may be a potent factor in the dental decay seen in civilised communities

Diseases due to deficiency of vitamin "C"—These may be classified as

(1) Prescorbutic states including the gastro-intestinal disturbances, decay of the teeth already described and vague conditions of ill-health due to want of fresh fruit and vegetables especially in children—the 'sub-infantile scurvy" and "latent scurvy" of Hess (23)

(2) Frank scurvy, including infantile scurvy (or Barlow's disease) and adult scurvy The symptoms of such diseases are too well known to require a description here Prevention and treatment are of course on a sound scientific basis, *viz* the provision of an adequate quantity of fresh fruits and vegetables, or the exhibition of antiscorbutic substances, including the recently discovered preparations of orange juice, lemons and the juice of Swedish turnips

From the evidence adduced, and the considerations I have put before you to-day, you will I am sure, have no difficulty in realising the importance of vitamins in the dietary both of the healthy and the sick As I have mentioned above it is easy to establish a vicious circle in the case of the sick especially on the treatment of gastro-intestinal disorders by a further deprivation of vitamins in conditions due to vitaminic deficiency One of the first principles in treating disease of any kind should be the provision of an adequate supply of vitamins, and this applies more especially to tropical disease of any kind This should form the basis of all methods of treatment and prevention of disease In Drummond's words "It may be accepted as experimentally proved that the dietary requirements of the higher animals include in addition to a satisfactory balanced ration of protein, fat, carbohydrate, and mineral salts, an adequate supply of these accessory food factors (herein called vitamins) Fat Soluble A, Water Soluble B, or anti-neuritic factor, and Water Soluble C or anti-scorbutic factor" To ensure an adequate supply of these accessory food factors the dietary should include whole meal bread, eggs, glandular organs, fresh milk, butter, animal fats, fresh fruit, and green vegetables This is simply enough, but to satisfy my Hindu friends, who may be vegetarians, I should draw their attention to what McCollum calls *protective foods* these are fresh milk, eggs, and leafy vegetables, so to simplify matters still further I may say to you that whatever form of diet you take you might with advantage add one or all of these three foods

As regards the Special Tropical Diseases I have mentioned, many points are still in dispute and much work requires to be done, but whatever views are correct no one can, I think, deny the importance of providing an adequate supply of vitamins in addition to other measures of prevention or treatment

Finally I may say that the nearer we sail to the course nature has mapped out for us in diet, as in all things, the more pleasant will be our voyage through life

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(4) Bloch Clinical investigation of xerophthalmia and dystrophy in infants and young children *Journal Hyg* (Cambridge), 1921, xix, 283
(5) Wells Eye troubles of Roumanian children, through Blunt and Waug 1921
(6) Hopkins, Chick Dakyell and others Discussion on the present position of vitamins in clinical medicine *B M J* 1920, ii 147
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(12) Dutcher Vitamin studies, I, Observation on the catalase activity of the tissue in avian poly-neuritis *Journal Biol Chem* 1918, xxxvi, 63
(13) McCarrison Pathogenesis of deficiency disease *B M J* 1919, i, 177 *I J M R* 1919, vi, 275
(14) Uhlmann Contributions to the Pharmacology of the vitamins z *Biol* 1918, lxviii, 419, 457
(15) Dutcher Vitamin studies *Journal Biol Chem*, 1919 xxxix 63
(16) Goldberger *Journal Am Med Assocn* 1920 (July 3) lxxv, No I, p 21
(17) Sprawson *Quart Jour Med*, 1920, xiii, No 52, p 338
(18) Chick and Dey Antiscorbutic value of dry and germinated seeds *Biochem Jour* 1919, xiii, 199
(19) Shorten and Ray *Bio Chem Journal*, vol xv, No 2 1921
(20) Givens' and McCluggage *Amer Journ Diseases of Children* 1919, xviii 30
(21) Harden and Robison *Biochem Jour*, 1920, xiv No 2, p 171
(22) Zilva and Wells *Proc Ray Soc, London*, 1919, xc B, 505
(23) Hess Scurvy, Past and Present, Philadelphia and London, 1920, pp 183 *et seq*

NOTES FROM THE DIARY OF A MEDICAL INSPECTOR OF SCHOOLS

By DR. ABDUL HAMID MB,

Medical Inspector of Schools Sind

THE Medical Inspection of Schools and Scholars is a pre-war scheme, kept in abeyance on account of the War Even in England the scheme was in its infancy before the war, but the Great Event has served to usher it into maturity A periodical examination of pupils

the kidney producing it, and may be employed in all cases in which cryoscopy can be used The difficulty of obtaining a clear solution with blood or blood serum has so far prevented the application of this method to their examination The rise in critical solution point should not be less than 8° C for the urine from a healthy kidney, ordinarily the rise is from 11° to 16° C Each determination can be made in ten minutes, without weighing and without any special or costly apparatus Only a small quantity of urine is required, not more than 5 c.cm for each determination, when specimens have to be collected by catheterization of the ureters this is a saving of time and occasions less inconvenience

Medical Press and Circular, London.

January 29

14 *Modern Theories of Diet in Their Relation to Practice R Hutchison
15 Hemorrhage into Pons Varolii as the Immediate Cause of Death in Eclampsia of Pregnancy N Carver and J S Fairbairn
16 Treatment of Lateral Sclerosis W Murrell
17 Deductions from One Hundred Consecutive Operations for Appendicitis J W Dowden
18 The Woman of the Future from the Gynecologist's Point of View E O Croft.

14 Diet—Hutchison discusses at length modern theories of diet in relation to practice Among his own personal conclusions are, that climate has less influence than is commonly supposed, that the variations in metabolic activity of cells in different people may be due to variations in the activity of the thyroid, that the physiologists' views, based on a mere calculation of how much nitrogenous material people in a state of balance consume in twenty four hours, are unsound, whereas the real indication that a person is eating too much is continued increase in weight, that a too low body weight renders people liable to certain diseases, especially tuberculosis, and that the risk of taking too little protein may be greater than that of overworking the excretory organs with too much, that the claims of contradictory systems to cure the same conditions are probably due to the fact that it does not matter whether one eliminates the "protein sparers" or cuts out the protein, leaving little for combustion, the result being the same in the end, and that the best method is "an intelligent omnivorism, eating everything which comes handy, but not too much of it" People who can not do that are not normal but pathologic

Practitioner, London.

February

19 Causes and Operative Treatment of Umbilical and Ventral Hernia A E Barker
20 *Mode of Production of Presystolic Murmur in Mitral Stenosis E. H Colbeck
21 Infantile Paralysis. G Rankin
22 Radical Treatment of Cancer of the Prostate J W T Walker
23 *Metastatic Affection of Pancreas in Mumps. W Edgecombe
24 Ophthalmia Neonatorum (to be continued) S Mayou
25 Contracted White Kidney W M Robson
26 Review of Tropical Diseases. R T Hewlett
27 Review of Diseases of the Blood and Blood forming Organs H B Shaw
28 *Treatment of Chilblains. F Gardiner
29 Statistical Inquiry into Cases of Cancer Occurring at Twickenham from 1882 to 1902 J R Leeson
30 Chorea and a Convenient and Trustworthy Method of Administering Arsenic Therein. J G Sharp

20 The Presystolic Murmur—Colbeck thinks the presystolic mitral bruit due to vibrations excited in the large anterior flap of the valve by the impact of the blood stream during the auricular systole The valve is suspended obliquely in front and to the right of the smaller posterior flap, and is attached at its base to the fibrocartilaginous ring, being thus more or less fixed and permanent. Normally, the course of the blood stream from auricle to the ventricle is directly in the perpendicular axis of the ventricle, so that should anything interfere with the falling back of the anterior flap of the mitral valve this segment would lie directly in the path of the blood stream Interference with the diastolic expansion of the left posterior portion of the auriculoventricular orifice, or the falling back of the posterior flap, would have the same result of throwing the blood stream on to the anterior flap Again, the essential feature of the bruit is its rough, vibratory crescendo quality, whereas other murmurs lack the vibratory quality of the presystolic and have a diminuendo quality The properties of the presystolic bruit suggest the vibration of a thin membrane The increase in intensity is due to the increase in force and intensity of the impinging blood stream from auricle to ventricle The changeability is explained by the variation in tension of the anterior flap or in the force and rapidity of the blood stream The disappearance of the murmur is perhaps sometimes due to total destruction of the flap, at others to failure of the *vis a tergo* consequent on the establishment of tricuspid incompetence The restricted area of the murmur is explained by the attachment of the base of the flap to the fibrous portion of the ventricular septum, along which structure it would naturally be conveyed, and which comes nearest to the surface, just internal to and above the apex beat This also explains the presystolic thrill The occasional presystolic murmur of aortic incompetence is due to affection of the posterior coronary segment of the aortic valve, which would direct the regurgitant stream on to the flap of the mitral The rare occurrence of a tricuspid presystolic bruit is accounted for by the difference in the arrangement of the valvular flaps

23 Parotiditis and Pancreatin.—Edgecombe says that it has long been known that the pancreas may be involved in the general infection of mumps He has recently observed an epidemic of mumps in a boys' school (33 cases) Five patients presented symptoms pointing to a metastatic affection of the pancreas These cases he reports The features common to all were Rapid subsidence of the parotid swelling, vomiting, pain and tenderness in the epigastrium, and constipation Fever occurred in all but one In two there was a distinct swelling of the pancreas In all but one acetone and diacetic acid were found in the urine, glycosuria was not observed In the last case urine taken on the ninth day from the onset of the mumps was reported as showing a well marked pancreatic reaction, and also a well marked deposit of calcium oxalate crystals

28 Chilblains—Gardiner thinks that no case need go beyond the erythematous stage. The two chief etiologic points are that the lesions occur at the extremities of the circulation and that they are started by cold, and more especially by rapid transition from heat to cold Mild cases of Raynaud's disease must be looked out for Chills should be avoided, tepid water should be used to wash in, there should be no sitting over the fire, and particularly no going directly therefrom into a cold outside atmosphere Foot and hand wear must be carefully chosen Massage is helpful, especially as a prophylactic Calcium chlorid in 15 grain doses daily, or tincture of strophanthus with liquor trinitri may be given internally Locally two drugs stand out pre-eminent, ichthyol and formalin, the former, 10 to 20 per cent in lanolin, the latter as an ointment, in 10 to 50 per cent. strength There will be much smarting in the presence of abrasion Simple lanolin or petrolatum should be substituted after a few days for a short time Treatment may be started with ichthyol and finished with lanolin Iodin, tincture or as 2 per cent iodin in collodion, silver nitrate solution, or camphorated spirit may be used Galvanism, faradism and *x* rays have all been used with benefit, the last in ten minute doses with a hard tube and 0 5 milliamperes in the secondary circuit, when continued thrice weekly, stopping short of reaction, it causes eventual disappearance In the ulcerating stage Gardiner recommends Ammoniated mercury, grains v (0.32), ichthyol, min x (0 16), starch powder, powdered zinc oxid, of each 2 drams (8), petrolatum, ℥ss (15) If all local means, coupled with general treatment, fail, lupus erythematosus should be suspected

Journal of Tropical Medicine and Hygiene, London.

January 15

31 Diseases Found in the Gilbert and Ellice Islands A Robertson
32 Inexpensive Warm Stage for Microscope O T Logan

Clinical Journal, London.

January 29

33 *Aspiration of Portion of Tooth into a Bronchus. W Murrell*
34 Surgical Diseases of Children A H Tubby
35 Intestinal Perforation of Typhoid. L. McGavin

do not come across boys who died of smallpox, we do not come across boys who lost both their eyes on account of the pox, they are wandering about as blind beggars in the streets, but there are boys in schools who have lost one eye, they will turn into one-eyed men, and others who have suddenly grown myopic after an attack of the disease, as is shown by the record of their eye-sight at different ages There are prejudices and there is ignorance which have managed such boys to escape the vaccinator in childhood

5 A record of the health conditions shows very well that a child in the lowest standard has usually got a straight figure and normal acuteness of vision, but cases of bow-back with defective eye-sight are noticeable the higher we go in the school The gradual increase is remarkable and not without significance Within living memories a young boy used to sit upon high stools with feet dangling and used to bend over low desks resulting in consequent congestion of eyes, defective eye-sight, bow back, compressed chest with tendency to pulmonary diseases, but a record of health conditions has shown us the importance of a foot rest, back rest, and proper distance of desks from the eye It is all right even for the laity to understand the importance of model desks when once they have been introduced, but the problem bears an analogy to "making an egg stand upon its end"

6 But defective eye-sight is not the main curse which requires attention, although it is generally believed to be so The results of the neglect of oral (or rather buccal) hygiene are most conspicuous If defective eye-sight is the curse of the older boy, enlargement of tonsils is the curse of all ages A youngster has his tonsils enlarged invariably, and the experiences of the recent air-borne epidemic (Influenza) too, go far to show that mouth breathing must be the main cause of it, whether or not it is induced by the presence of adenoids or polypi, it is certainly due to habit. Adenoids are uncommon as they have a tendency to disappear when the child grows up, when by reason and the effort he becomes a nose-breather, and it should make one question the probability of adenoids being the primary cause of mouth-breathing in all cases of adenoids At any rate it has been observed about tonsils that the growth which ranges from mild and transitory cases to severe chronic ones, with all the intermediate shades and grades, is always traceable to some definite cause Among youngsters caries of teeth plays an important part, and the older he grows the more the element of pyorrhea alveolaris becomes conspicuous probably due to betel chewing These are fruitful sources of obnoxious material to excite the glands to take a defensive attitude At a certain place of pilgrimage among the "Pandas" whose children chew betel by scores pyorrhea was observed to start up very early A careful parent attended the medical examination of his only child at the sacrifice of his practice at the Bar to discover that the food which the child was getting was too good for him, as his chewing apparatus was quite out of gear on account of extensive caries and pyorrhea, and the discovery to the otherwise careful parent was a startling one too, as the idea of the care of teeth had never occurred to him, having himself worn a couple of plates of artificial teeth for years The scheme has a very salutary effect upon the educated parent and cases are occasionally noticed where the dentist has been consulted and cavities have been filled up A carious temporary tooth is regarded to have a transitory existence, but it is not realised that a carious temporary tooth will, in many cases, result in a carious permanent one, or a temporary carious tooth will make a permanent one go astray, resulting in irregularity of teeth, which if extensive, is liable to keep the mouth gaping, resulting in permanent mouth-breathing and enlarged tonsils, etc It is found that the older boy, with enlarged tonsils, if he has not got caries or sepsis, is a mouth-breather and he is more liable to nasal catarrh The tonsils also show greater chronicity, and the more the chronicity the greater is the association with palpable cervical glands, otorrhêa, bronchitis, or deficient air entry with meagre expansion of chest and in some cases slight irregularity of heart too, where history of fever with arthritis has been given Or there is the history of frequent nasal catarrh and occasional otorrhêa with it, and the otorrhêa on the side of greater enlargement is enough to convince one of the connection

Again, it has been observed that in Upper Sind where betel is not chewed extensively, pyorrhêa is much less common, the enlargement of tonsils being almost invariably associated with mouth-breathing and so very much more common among the youngsters There are also a few isolated cases with mouth-breathing habit who triumphantly confess that, being of sportive tendencies, they have been training themselves to breathe with mouth shut and have noticed that their permanent catarrh has become only seasonal and occasional The Santals are great sinners with respect to the care of teeth, but they do not chew betel and they live an open air life, and among them the tonsils are much less prominent If tonsils cease to swell up, or tend to collapse, with nose-breathing, it is quite likely that adenoids too tend to disappear with nose-breathing, unless the chronicity has rendered them into a dead mass Various Child-Welfare Leagues coming into existence will be able to throw light on the matter later on

It is said that Indians have got very good teeth in youth and very bad about middle age, the use of the "neem" twig is believed to effect the former and the excessive use of betel leaves to effect the latter But it is expected that regular tooth-brush drills in England and America, which are an outcome of the scheme of medical inspection, will falsify the above assertion, if true The superiority of the tooth-brush or the neem twig is not the moot point, but it is the method of using the apparatus which is important,

in certain cases of jaundice and the necessity for differentiating this condition in order to avoid operating in such cases The serum and blood plasma are apparently normal, but the bone marrow produces red corpuscles which succumb to some unknown factor No measure is known which will affect this causal factor He shows that the "white" and the "yellow" forms of pernicious anemia should be differentiated, as arsenic and bone marrow are liable to give good results, transiently at least, in the "white" form He has found that it is possible to differentiate hemolytic jaundice by the small size of the red corpuscles and their granulated appearance when blood specimens are dried and stained with the Pappenheim technic without fixing When the jaundice is due to retention of bile, the red corpuscles are normally resistant and of normal size and free from the granulations noticeable in the hemolytic form He gives illustrations of the blood picture and sustains his assertions by the results of experimental research and clinical experience, giving an illustrated description of a typical example of hemolytic jaundice.

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48 *Experiences with Fifty eight Cases of Suppuration or Gangrene of the Lungs Forty five Operations W Körte
49 Primary Otogenic Thrombosis in Jugular Bulb F Grossmann
50 Heteroplastic Formation of Bone in the Kidneys. (Heteroplastische Knochenbildung in Nieren) E Lick
51 *Boilable Catgut, Using Anterior Chamber of Eye for Inoculation Tests C F Heerfordt
52 Fate of Defectively Healed Fractured Bones Especially in Children (Spätere Schicksale difform geheilter Knochenbrüche) Fritz König
53 Cysts and Fistulas of the Thyroglossal Duct. S Erdheim
54 Lessons Learned from Thirty-one Operations on the Stomach. Improved Technic for Gastroenterostomy E. Bircher
55 *Lateral Abdominal Hernia. Pseudohernias. (Seitliche Bauchhernien) R von Baracz
56 *Serologic Research on Cancer Especially from Surgical Standpoint. G Kelling
57 Etiology of Noma. A D Pawlowsky
58 *Ascarides Affections in Surgery H Miyake.

48 **Operative Treatment of Suppurative and Gangrenous Processes in the Lungs**—Körte's experience with 58 cases of this kind has convinced him that acute suppuration in the lungs, without putrid decay or formation of sequesters, should be treated for a few weeks with internal measures If the process then shows no signs of subsidence, and if fever persists, pneumotomy should be done without delay The prospects are especially good in this class of cases Acute gangrene in the lung should be treated as soon as possible by extensive opening up of the process and splitting the lung He does not advocate operating on a bronchiectatic cavity unless it is restricted to a single lobe of the lung In this case extremely radical measures are required extensive resection of the thorax, extensive slitting and, if the process does not promptly heal, isolated flaps of lung tissue should be resected The general condition and whether the focus is single or multiple are the main factors in the ultimate outcome Twenty of the 28 patients operated on for gangrene and abscess in the lung are still in good health, including 10 who were operated on more than four years ago In three instances sudden death occurred during the operation, evidently, he thinks, due to reflex action from some branch of the vagus The fatalities with bronchiectasia demonstrate anew the rarity of cases in which conditions are favorable to operation Only five such patients recovered out of 17 operated on He did not use the air cabinet for under or overpressure in any case, and is inclined to doubt whether the overpressure might not predispose to aspiration of pus into the sound parts of the lung or into the sound lung during an operation Pneumothorax can be avoided by drawing the lung forward with forceps after a small incision has been made in the pleura. He found adhesions in all but 11 of his 42 pneumotomies His mortality was 28 5 per cent of 29 cases of gangrene and abscess, and 73 3 per cent of 17 cases of bronchiectatic cavities All but 13 of the total 58 were men or boys, the majority were between 20 and 50 years old Four children between 4 and 10 were cured, although their lesions were extensive. The oldest patient who recovered was 65

51 **Catgut that Can Be Boiled.**—Heerfordt thinks that nothing can compare with the anterior chamber of the eye for testing catgut He draws the catgut through the anterior chamber of the eye of a rabbit, cutting off both ends as they project through the cornea The results of these experiments showed that none of the methods of sterilizing catgut in vogue are thoroughly reliable, and that there is urgent need for some official establishment where catgut can be prepared under the strictest scientific guarantee as to its sterility While waiting for this he has found the most reliable method of sterilization to be impregnation with formaldehyd, leaving the catgut for from twelve to sixteen hours in a 4 per cent. solution of formaldehyd The formaldehyd is then removed by rinsing in 5 per cent ammonia water Catgut thus prepared can be boiled without injury for ten or twenty minutes just before using, and this treatment does not affect its absorption in the tissues The catgut must be stretched during the boiling and it is rolled on a special suture holder for this purpose and is threaded into the needle beforehand He believes that this "boilable catgut" (Kochcatgut) is a great improvement in the line of a reliable suture material that can be used safely even in the eye.

55 **Lateral Abdominal Hernia**—von Baracz reports a case of abdominal hernia into the right side evidently the result of paralysis of the muscles from an acute anterior poliomyelitis In an earlier, similar case there had also been paralysis of the left leg and paresis of the right. He also gives the summaries of eight similar cases from the literature in which abdominal hernia into the right or left side had followed infantile spinal paralysis The hernia may be the result of a congenital defect, but as a rule it is due to partial paralysis of the lateral abdominal muscles resulting from acute anterior poliomyelitis It is not a true hernia, and electric tests will reveal the condition of the muscles Operative treatment has little chance of success, as it is impossible to cover the defect adequately, the neighboring muscles generally sharing in the paralysis Only in case of a small, circumscribed congenital defect it might be possible to remedy the condition with a muscle plastic operation Under other conditions intervention must be restricted to supplying suitable trusses or girdles, with appropriate treatment of the concomitant paralysis of the leg

56 **Serologic Research on Carcinoma, Especially from the Surgical Standpoint.**—Kelling has been studying for more than three years the possibility of diagnosing carcinoma from the patient's serum both with the precipitin test and the hemolytic test, and here states that he has succeeded in determining the presence of cancer even in the absence of conclusive signs of its presence He asserts that these biochemical reactions unfailingly reveal malignant tumor formation, and that they can thus call for surgical relief in the very earliest stages of cancer They will also reveal recurrence in its earliest inception He adds that Bier's method of injection of foreign blood as a means of treating malignant tumors should be specialized, that is, the blood from an animal of the same species as that to which the patient's blood shows the specific reaction should be used for the injection It is particularly applicable for recurrence after operative treatment He has applied the tests in 600 cases, the hemolytic in 400 and the precipitin in 200 More than a third of the 600 patients had cancer In 28 cases the diagnosis of cancer was made solely on the positive response to the tests, and the operation confirmed the diagnosis He has not much hope of successful serum treatment of primary malignant tumors which generally develop on chronically inflamed tissues The cancer cells nestle between thick sheets of connective tissue and it is hard to see how the serum can reach and act on these nests of malignant cells The outlook is different, however, with recurring malignant disease after radical operations Serum treatment has every prospect of success in this case He describes the technic of both tests and his findings with each THE JOURNAL has duly chronicled Kelling's announcements in regard to the origin of cancer from embryonal cells from some other species He makes the serum for his tests on this assumption, using beef sheep, pig or poultry livers and extracts of chicken and pig

of the feet, parts of the body which are liable to injury and subsequent exposure to infection

Age—Infants are more liable to infection than adults

Sex—Both sexes are equally liable to be infected

Race—In the Malay States, yaws is very prevalent amongst Malays, but Chinese and Tamils living in the neighbourhood often get infected

Clinical Manifestations—This may be divided into three stages, *viz*—Primary, secondary and tertiary

The primary stage—This consists of a single lesion at the site of inoculation and takes the form of an elevated papule, which later becomes granulomatous This primary sore is called by the Malays *ibu puru, i e*, the "mother of the yaws" It appears to arise from the superficial layers of the *dermis*, and to push its way through the *epidermis* and to grow into a granulomatous mass of varying size It presents an uneven surface, is irregular in outline and of a creamy yellow appearance In some rare cases it may be darkly pigmented This mass or scab, which rises abruptly above the level of the skin, wears off, revealing a superficial ulcer with an unhealthy base and undermined edges This ulcer may either heal up, leaving hardly any scar, or it may, on the other hand, take a chronic course owing to superadded infection, and leave a permanent scar of a rather pale colour

The primary sore may last as long as six to twenty-four months, with, or without, evidence of secondary manifestations

The secondary stage—This is as varied as in syphilis, and appears in successive crops for several years The typical cutaneous manifestation, however, consists of granulomata similar to the primary lesion, and is termed by the Malays *anak puru, i e*, the "child of the yaws" They may be discrete, or confluent, occur in any part of the body, or affect its entire surface In infants and children the confluent type is most common The tendency towards the discrete type increases as age advances The eruptions are scanty in the palms of the hands and soles of the feet and rare in the scalp The secondary symptoms may set in with irregular fever of short duration, some weeks or months after the parent lesion has healed up, or may co-exist, appearing a few weeks after the onset of the primary sore The extensor surfaces are more affected than the flexor The ulcers may be round, oval, circinate, or serpiginous Owing to superadded infection they may assume a larger size, involving large areas of skin and subjacent tissues, and result in unsightly scars, extensive deformities, and malformations These lesions may affect, not only the cutaneous, but also the alimentary, respiratory, and osseous systems and give rise to various symptoms

The alimentary system—Ulcers may be seen about the lips, palate and pharynx

The respiratory system—The anterior nares are often seen to be affected, and sometimes blocked by granulomata Some patients show indications of pulmonary affection, which soon disappears with anti-yaws treatment

The osseous and locomotor system—The ends of the bones, particularly the lower end of the *tibia radius, humerus* and the *phalanges* are seen to be involved, presenting the appearance seen in chronic periostitis In the fingers and toes, a condition known as "dactylitis" is produced Nodes may be felt along the crest of the tibia, which, in a few cases, presents the appearance of a sabre with an antero-posterior curve, the convexity being in front In some cases the joints are swollen and tender, in others, pain is often complained of in various joints though no lesions are apparent Rarely the bones of the *tarsus* are affected so as to produce a condition of pseudomycetoma

The cutaneous manifestations are very varied in character The typical lesions are granulomata, varying from the size of a pin's head to that of a marble They appear at first as papules and develop into the granulomata They may either subside, leaving hardly any scar, within a few months to one year, or may ulcerate and leave pigmented scars In the palms of the hands and soles of the feet they are said to appear every year with regularity during the "durian" season The scabs present a hobnailed appearance on these parts Ulcers may sometimes be seen between the toes and underneath the nails

A most common type of secondary manifestation seen on the soles of the feet is of a pitted appearance as if the skin had been perforated with a pin In other cases thickened patches of skin may be seen here and there, indicating lesions that have been retarded in their progress towards the surface by friction In those that appear above the surface the enormously thickened *epidermis* appears as if split through by the protruding mass

The tertiary stage—This may set in during the secondary manifestations, or may co-exist with them It generally consists of an affection of the skin in the palms of the hands and soles of the feet and is called by the Malays "*Kedal*" In slighter cases, the skin presents a condition of exfoliative *dermatitis*, with superficial cracks and fissures limited to the *epidermis* In severe cases the skin is thickened, cracked, and fissured Such fissures may extend into the *dermis*, and, in some cases, go on to ulceration, making it practically impossible for the patient to walk, or grasp anything by the hands They may persist for years, with exacerbations Together with this, or after this exfoliative condition passes off, the skin seems to loose its pigment and to exhibit a condition almost resembling *leucoderma* It resumes its normal pigmented appearance after treatment with *Novarsenobillon* This tertiary manifestation, though generally confined to the soles of the feet and the palms of the hands, spreads in some cases to the *dorsum* Amongst other tertiary lesions may be mentioned the gummata of bones and skin, sometimes developing into chronic and

72 **Fate of Transplanted Bone.**—Axhausen had opportunity to examine the amputated leg of a young man fifty one days after an extensive defect in the metatarsus had been filled with a piece of bone taken from the anterior aspect of the tibia The graft had healed rapidly in place and histologic study of the tissues later showed that there can be no doubt that fresh bone tissue implanted in a defect dies throughout, but the periosteum remains alive and capable of reproducing bone tissue, and it is probable that the bone marrow retains its vitality The implanted dead piece of bone gradually is supplanted by new formed bone tissue The new bone is formed from the implanted periosteum and possibly also from the bone marrow and from the adjacent tissues if they are capable of producing bone When macerated bone is implanted, only the last mentioned factor can carry on the process of new bone growth and this only when the tissues are capable of bone production as in case of trephining and resection in solid walls —but not when implanted in place of large defects in the long bones Under these circumstances fresh bone still covered with its periosteum is much to be preferred He suggests that bones taken from children's cadavers might answer the purpose admirably Tomita comes to practically the same conclusions as the result of extensive experiments on young rabbits and dogs (see No 95 below) He found however, that the implanted bone retained some vitality as late as the ninety fifth day, and that it was not entirely destroyed until about 110 or 130 days after the implantation This long retained vitality aids in the healing in process, the piece soon growing into connection with the environing tissue The bone cells do not possess the property of forming new bone—this is exclusively the prerogative of the periosteum and bone marrow which should, therefore, be carefully preserved when implanting bone

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74 *Meningitis or Meningism V Ortner
75 Cracking Sounds in the Scapula (Skapularkrachen) Lot heissen
76 *Hot Gelatin Enemas in Intestinal Hemorrhage (Heisse Gelatinklystiere bei Darmblutungen) E Michaelis
77 *Treatment of Exophthalmic Goiter by A von Strümpell Eulenburg and Eichhorst (Morbus Basedowii)
78 Study of the Cutaneous Reaction to Tuberculin (Impfpapel bei der Tuberkulosediagnose nach v Pirquet) F Daels

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79 *Diagnosis by Palpation Gymnastic Exercises Massage Etc (Mechanodiagnostik) A Bum
80 *Polycythemia R Stern Commenced in No 2
81 Cutaneous and Ocular Reactions to Tuberculin in Adults (Kutan und Ophthalmoreaktion) H Curschmann
82 Conservative Treatment of Inflammatory Affections of Adnexa and Pelvic Connective Tissue (Was leistet die konservative Behandlung?) A Hörrmann
83 Catalysis in Relation to Medicine H Schade Commenced in No 2

74 **Differentiation of Meningitis.**—Ortner reviews the various affections liable to induce symptoms on the part of the meninges and enumerates the differentiating points Examination of the blood, cerebrospinal fluid or of a scrap of muscle will differentiate malaria anthrax trichinosis or other infections the main point is to think of the possibility when confronted with a syndrome suggesting meningitis Early paralysis will sometimes differentiate acute encephalitis Thrombosis of the transverse sinus may be differentiated by the edema over the mastoid process the only partial filling of the external jugular vein on the affected side the twisting of the head toward that side and the tenderness to pressure of the inner margin of the sternocleidomastoid muscle This tenderness is due to descending phlebitis of the internal jugular vein and is thus a companion to the external jugular vein sign Sarcomatosis carcinosis and cerebral echinococcus cysts may induce meningeal symptoms but the absence of fever and the findings in the spinal fluid readily differentiate them In one case, a hard drinker with a subfebrile tuberculous process in one lung and cirrhosis of the liver with enlargement of the spleen suddenly presented symptoms of supposed incipient tuberculous meningitis with increasing delirium On suspicion of possible delirium tremens large doses of chloral were given soon followed by subsidence of all the meningitic symptoms In another case the cerebrospinal fluid was clear, but the other symptoms indicated meningitis, possibly of typhoid origin as the abdomen was soft and there was some meteorism, with diarrheic stools As the agglutination test gave constantly negative results and the respiration and pulse became rapid with increasing cyanosis, the diagnosis was corrected to miliary tuberculosis with tuberculous meningitis but autopsy confirmed the first assumption of typhoid meningitis Ortner has encountered but one instance of diarrheic stools with tuberculous meningitis Meningeal symptoms from lead poisoning are readily differentiated, as a rule

76 **Hot Rectal Injections of Gelatin to Arrest Intestinal Hemorrhage**—Michaelis reports the successful arrest on two occasions of severe typhoid intestinal hemorrhage by rectal injection of a 5 per cent solution of gelatin, one liter being injected at a temperature of 50 C (122 F) in four portions The procedure was repeated the next day when the hemorrhage recurred The fine results in this case encouraged further trials, and 11 other typhoid patients with intestinal hemorrhage were treated with rectal injections of a 5 to 20 per cent solution of gelatin at temperatures ranging from 115 to 122 F, in amounts of 250 300 500 c c up to one liter, from two to four times a day The hemorrhage was completely arrested by this measure in every instance Not a trace of injury to the intestines from the injections could be detected in any case, even in those that came to autopsy The hot gelatin cured the hemorrhage in some cases after failure of all other measures The foot of the bed was raised and the fluid was injected very slowly and under low pressure to avoid inducing a desire for defecation This measure also proved successful in a case of recurring intestinal hemorrhage of unknown cause in a young woman An exploratory laparotomy failed to clear up the diagnosis, but after a week of two daily injections of the hot gelatin solution not a trace of blood could be discovered in the stools, and she rapidly regained weight and strength A child with hemorrhagic stools for a few days was also cured in three days with injection of 1,000 c c of the hot gelatin, fractioned

77 **Treatment of Exophthalmic Goiter**—von Strümpell lays the greatest stress on the regulation of the diet Complete mental and physical rest, fresh air rest cures and artificially carbonated baths and electricity are all valuable adjuvants He gives iron and arsenic in anemia and emaciation, bromids in case of much nervousness valerian or exceptionally digitalis when the heart disturbances are distressing In many cases of the so called "goiter heart," which can scarcely be distinguished from the latent forms of exophthalmic goiter, he has found ergot useful He has never witnessed any objective benefit from the serum of thyroidectomized sheep, but the patients are often subjectively much benefited by it. He tells of several fatalities following operative treatment, in certain other cases no objective improvement can be detected At the same time he knows of several cases with successful results of operative measures and he would certainly operate in severe cases after failure of all other measures Eulenburg echoes Strümpell's remark that treatment can be only symptomatic as no specific treatment is yet known He has given the serum of thyroidectomized sheep in 17 cases and never observed any ill effects nor any important and permanent benefit Even at the best, the goiter was only slightly reduced in size, with transient improvement of the cardiovascular symptoms He has noted considerable improvement in the general health after a course of treatment with nerve tonics The resisting powers must be adequate and the local symptoms very serious, he asserts, to justify operative interference Eichhorst regards physical and dietetic measures as the principal reliance in the treatment of exophthalmic goiter Rest for mind and body is the main point Remaining in bed may give good results without other measures He orders a warm bath for fifteen minutes daily, and has obtained surprisingly excellent results from a change of air especially a sojourn in the mountains His experience with the serum of thyroidectomized sheep was entirely negative, it did neither harm nor good, and his experience with Roentgen treatment was the same If no benefit is apparent after three months of internal treatment, he pro

or at least to prevent its further spread, the following measures may be necessary —

(1) All persons suffering from active yaws to be treated with *novarsenobillon*

(2) A census of all persons suffering from yaws to be taken

(3) All such individuals to be required to attend at the various hospitals and dispensaries for treatment

(4) On these occasions, and also in the schools, mosques and other public places, lectures to be given explaining how yaws spreads and how it can be prevented

(5) Lectures on elementary and personal hygiene, with special reference to the house-fly as a disease carrier, to be given in the centres mentioned above

The simplicity of the method of treatment employed and, above all, the real efficiency of the treatment have created almost a passion for the "new cure" of yaws It has, more than any other treatment, elevated the value of scientific medicine in the eyes of the Malays Hundreds flock to the hospital on the days of injection from different parts of the State These people—men, women and children of all ages and ranks —now not only believe in the "new cure," but also very willingly ask to be examined and treated for various other ailments In the district of Upper Perak some of the measures recommended were put into practice and found to be successful Each Penghulu was asked to submit a list of names of those suffering from "puru" in his mukim Dates were appointed and centres were arranged for people from a number of kampongs to attend No difficulty was experienced in this, as all very willingly attended regularly until cured These occasions were made use of, both in Upper Perak and in Kuala Kangsar, to explain how "puru" spreads and how it can be prevented Upper Perak may now be safely said to be fairly free from yaws I have no doubt that these people understand the gravity of the disease by long years of suffering and that they would try, as much as circumstances permit, to act on the advice given to them There is, of course, the danger of introduction of infection from outside, and it is here one feels the necessity of a broad scheme of treatment

It is not perhaps a wild dream to expect a better state of affairs in the progess of the Malay race in the future, if the above steps should be undertaken on an extensive scale. We may then expect to see a happier people placed on the road to material progress after years of suffering and misery "Parsimony in preventive medicine is a poor form of imperial economy"

ETHER IN THE TROPICS
A NEW APPARATUS

By A HOOTON
LIEUTENANT-COLONEL I M S

NOTHING has been more remarkable in the changes which have taken place in British operation theatres during the last thirty years than the almost complete unanimity with which chloroform has been superseded by open ether, Many of these changes seem to be regulated by a kind of fashion, and have their regular ebb and flow, but I do not know of any theatre in which ether has been displaced, once it has been firmly established, and one can only conclude that there are good grounds for its adoption It seems, then, fair to ask why chloroform still holds the field almost exclusively in India The reason usually given is that chloroform is safer in a warm than in a temperate climate, and this view is so generally held that there is probably something in it, though I have always thought that the comparative laxity of inquiry into the causes of death in the operation room in this country has much to do with this impression The other obvious reason is that the rapidity of evaporation of ether administered by the open method results in an extravagant expenditure of the drug, and further, is accompanied by very unpleasant consequences to the anæsthetist Even at home men say they often suffer from headache after a long morning spent in giving ether, and in India the conditions would be worse

I take it that if ether could be given economically and without discomfort to the administrator, many surgeons would prefer it to chloroform, in this country as at home, and for my own part, I have used C E out of a Junker's inhaler almost exclusively for many years, after a few whiffs of chloroform to facilitate induction of anæsthesia I tried ether at first, but for some reason it does not give satisfactory results in the Junker In Manila in 1910, I found the American surgeons using ether by the open method as a matter of routine, but the large amount consumed made it very expensive, apart from other objections

From the point of view of the district hospital economy is important, and there are two obvious possible ways of compassing this a diminution in the cost of the drug and an apparatus which prevents wastage The purpose of the present note is to point out a means of achieving both these objects

(*a*) *Cheap ether*

In a round of some of the teaching hospitals in London and elsewhere in 1911 I was struck by the fact that a large proportion of them had abandoned the regulation 'Ether purificatus B P' and were using, no doubt primarily from motives of economy, a cheaper variety, known I believe, as methylated ether In one large hospital in particular this had been employed for several years, and an eminent surgeon who was most careful about his anæsthetics told me he was well satisfied with it. The saving as contrasted with the B P anæsthetic variety was enormous, the cost being about one-third Recent enquiries have shown that the cheaper brands have held their own in subsequent years For some reason there appears to be a certain amount of

malignancy Another case is described in which multiple tumors at various points of the skeleton suggested myelomas The urine gave a pronounced Bence-Jones reaction for albumose. Fever was occasionally noted and the macroscopic findings at autopsy also suggested myeloma The microscope, however, differentiated the tumors as multiple sarcomas

104 **Otogenic Osteomyelitis of Flat Bones of Skull.**—Moller reports a case and reviews fifteen others from the literature, remarking on the rarity of this affection when circumstances seem so often to favor it In eleven cases the osteomyelitis developed in connection with acute otitis In some cases the process was discovered early, but in others it dragged along for months or years, with intervals of latency It is always a serious affection, but instances of recovery are known The process may flare up again months after it is supposed to have been entirely cured or a new focus may develop elsewhere The defect left in the skull heals over, as a rule, especially in children, if the periosteum is preserved Laurens has seen even very large defects heal over in time In some cases the process was restricted to the temporal bone but in others it extended to the occipital or involved all the flat bones of the skull to some extent When not sure that sound tissue has been reached in excising the focus, Schilling makes an artificial demarcation by cutting a furrow down to the dura in the assumed sound tissue all around the defect left by excision The patient in the case reported was a girl of 5 with otitis media and mastoiditis After the mastoid operation the temperature remained high and continued to rise until a secondary osteomyelitic focus was discovered and cleaned out when the patient recovered and has had no recurrence during the year since Certain symptoms had suggested meningitis, but lumbar puncture showed the fluid clear In one case on record the process induced epileptiform attacks in certain others it ran an almost symptomless course The aspect of the bone is unmistakable

107 **Temporary Osteoplastic Resection of the Chest Wall.**—Rovsing gives an illustrated description of a case of chronic empyema of the lung, which had much reduced the patient during the eight years since symptoms on the part of the lung first attracted attention The empyema had constantly recurred notwithstanding an operation which included resection of the eighth rib Rovsing cut a U shaped flap extending from the spine of the scapula down to the eighth interspace The lowest part of the flap was 12 cm wide, forming a rounded rectangle This allowed ample access and rendered it easy to mobilize the lung and tampon the pleural cavity with gauze medicated with silver nitrate, over which the flap was replaced but not sutured The operation was done under ether and afterward the patient lay on the operated side The temperature dropped at once to normal and the secretion of pus stopped as if by magic *The tampon was gradually removed* and the flap restored to place which was easily done, thanks to the precaution of resecting about 1 cm of each end of each rib when the flap was first cut The patient was in perfect health four months after the operation with full earning capacity restored and only a linear scar left from the operation The shape of the thorax was not altered in any way Rovsing has also applied this technic of temporary resection of a large flap of soft parts in the exploration and treatment of a deep lying abscess in the lung of a man of 43, the results being equally good in this case He regards this technic as signifying great progress in operations on the lungs allowing ample oversight of conditions and the best prospects for treatment and drainage It is almost impossible for an abscess to escape discovery

108 **Importance of Esophagoscopy and Tracheoscopy for Diagnosis and Treatment**—Schmiegelow reviews his experience with these measures during the last year or so citing examples of the great benefits of direct visual inspection In one case a young man presented symptoms suggesting obstruction at the cardia but the esophagoscope showed a bleeding new growth which escaped observation at the first application of the esophagoscope It proved especially useful in differentiation of cancer in the stomach or esophagus, spastic stricture dilatation or diverticulum of the esophagus and foreign bodies Important information was also derived in a case of stenosis of the trachea from pressure of a substernal goiter, showing the necessity for removal of the goiter which was successfully done—the disturbances had previously been ascribed to nervousness In another case stenosis of the trachea in a child was seen to be due to perforation of a tuberculous bronchial gland into the trachea The débris was removed through the tracheoscopy tube and respiration became normal, while microscopic examination of the scraps confirmed the diagnosis In another case stenosis of the right bronchus was traced to a syphilitic gumma A grain of corn was removed from the bronchus of a child with the aid of the bronchoscope, but severe cocain poisoning followed to which the little patient succumbed

Gazzetta degli Ospedali, Milan

January 19 XXIX No 8 pp 73 88

110 Case of Puerperal Endocarditis with Thrombophlebitis of Left Subclavian Recovery S Radaelli
111 *Splenomegaly with Cirrhosis of Liver (Morbo di Banti) F Schupfer
112 Diplococcus Lanceolatus Meningitis Following Fracture of Base of Skull A Balduzzi
113 Renal Pyorrhea During Pregnancy G Baroni
114 *Determination of Hemoglobin and Iron in Blood (Ematimetria con metodo decolorante e con il ferrimetro modificato) E Debenedetti

111 **Splenectomy for Splenomegaly with Cirrhosis of the Liver**—Schupfer reports a case of Banti's disease, treated by removal of the spleen, he believes that in this condition the spleen is the organ primarily at fault The patient was a man of 42, and three years after the operation he was in good health, the previously much enlarged liver being reduced to nearly normal size Before the operation the large mononuclears were found in normal proportions, but three years later they formed from 27 to 37 per cent of the total The splenectomy in Schupfer's case evidently improved the condition of the liver and arrested the cirrhosis but the blood showed three years later from 5,780,000 to 6,270 000 reds with cyanosis of the hands and ears now and then, more pronounced when the patient stood or when he was exposed to cold The heart was normal and the hyperglobulia was general and constant *In most cases the number of reds is at the lower range of* normal after splenectomy, or merely transient hyperglobulia was observed To have it occur tardily and especially in Banti's disease is unprecedented he thinks The blood did not show nucleated reds, myelocytes or neutrophile leucocytes, but the leucocytes, which numbered 14,000 a month after the operation three years later numbered between 16,200 and 20,300 He tabulates the blood findings before and late after the operation in this and in six other cases that have been reported In his case the neutrophile polynuclears ranged from 68 to 78 per cent before and from 50 to 58 91 per cent three years later while the lymphocytes dropped from 17 to 8 99 per cent and the eosinophiles increased from 2 1 per cent. to 4 28 per cent

114 **Determination of Hemoglobin and Iron in Blood.**—Debenedetti describes a chemical test for hemoglobin and a modification of the Jolles ferrometer, both of which he claims, furnish very accurate and simple tests of the proportion of hemoglobin and iron in the blood He determines the proportion of hemoglobin by the amount of chlorin water required to decolorize the sample of blood The iron test is based on the property possessed by *potassium permanganate of oxidizing* the iron in the blood

Sei-i-kwai Medical Journal, Tokyo

November XXV No 11 pp 218 230

115 *Firearm Wounds of Nerves and Their Plastic Repair S Namba.

December No 12 pp 231 242

116 Typhoid Epidemic on Man-of War Arrested by Isolation of Two Healthy Bacilli Carriers and Preventive Serum Injections for the Crew K. Momose

115 **Plastic Operations of Nerves**—Namba describes two cases in which radial or popliteal neuroparalysis following fire arm wounds was successfully treated by implantation of the sciatic nerve from a cock

The method that I adopted was the following —

Using a spreader with a slightly concave edge as advocated by Sir Almroth Wright I spread an even film occupying the two middle quarters of the slide, that is to say commencing three quarters of an inch from one end of the slide and finishing with as few tails as possible about the same distance from the other end After staining by Leishman's method I commenced counting at one end of the slide moving the mechanical stage in one direction only longitudinally, counting each leucocyte that came into the field, for the whole length of the film I then moved the slide vertically for the distance of about one field and a quarter, the extra quarter in order to avoid overlapping and again counted the whole length of the film not allowing myself under any circumstances to be lured into moving the slide vertically until I had reached the end of the film When I had counted 500 leucocytes I did not stop immediately but finished the row that I was counting This complicated the mathematics but increased the accuracy of the result

At the time I was satisfied that this method was at least consistent even if not quite accurate and to a certain extent my results appeared to please the clinicians

In carrying out research work on Kala-azar I have found the differential count one of the most useful indicators of the progress towards recovery in the case of patients and towards a definite Leishmania infection in the case of experimental animals It was necessary to decide on some standard method for making this count I therefore, determined to test a few of the most commonly adopted methods as well as a few that might conceivably be adopted Taking my own finger, the nearest to hand, I cleaned it with ether pricked it with a broad pointed needle and made a few films by the method which I have already described Of these I selected the best and made counts choosing in turn the following parts of the field as shown in the attached diagram —

(*a*) The edge and round the curve at the end including any tails I counted one line only keeping the edge of the field in sight the whole time

(*b*) The first third of the film giving the edge a wide berth

(*c*) Transversely across the commencement of the film

(*d*) Longitudinally from end to end of the film, the method already mentioned

I then took another drop of blood, placed it between two coverslips and drew them sharply apart , thereby getting a comparatively even thin film spread over both I made a count (*c*) on the more evenly spread of these Lastly, I made a number of small films varying in size upwards from 2 mm by 2 mm , the largest being 1 cm by 1 cm The small film is most easily made by giving a sharp but not deep prick to the finger, taking the minute drop on to the spreader and spreading quickly before it has time to dry The essential points are absolute cleanliness of the finger, spreader and slide, and rapidity As many as six attempts will often have to be made in order to get a film of the correct size On these small films I made nine different counts, F, F1, F2, F3, F4, F5, F6, F7 and F8, counting every leucocyte in each film The method I adopted in order to avoid counting a leucocyte twice or missing one altogether was to commence at a point above which there were no cells and to count a row at a time To move the slide vertically I took a fixed point at the extreme edge of the field and moved the slide until this point had just disappeared at the opposite edge of the field I tested the accuracy of this method and found the error to be less than 1 per cent The results of these 13 counts are shown in Table I I made a complete differential count but to save a multiplicity of figures I have included basophils and eosinophils amongst the polymorphonuclears and have counted transitional and hyalines together as large mononuclears I have followed this practice in all subsequent counts

TABLE I

Method adopted	Polymorphonuclear leucocytes	Small lymphocytes	Large mononuclears	Total number of leucocytes counted	Sum of the variations from the "correct" count.
	Per cent.	Per cent	Per cent.		
A	63 5	24 5	12	500	21
B	53	46	1	500	22
C	52	44 5	3 5	512	19
D	53 5	41	5 5	517	12
E	62	35	3	500	7
F	58 5	35	6 5	1,427	..
F 1	53	42	5	19	14
F 2.	50	47	3	34	24
F 3	56	36	8	80	6
F 4	60	36	4	277	5
F 5	60	31 5	8 5	377	7
F 6.	58	36	6	389	2
F 7	59 5	33	7 5	420	4
F 8	58	37	5	410	4

The sources of error that arise in differential blood counts are three —

(*a*) The personal error

(*b*) The mechanical error

(*c*) The numerical error

In this case the personal error need not be taken into consideration as all the counts were done by one observer The numerical error can be reduced to a minimum by counting a large number of cells as in count "F" The mechanical error is the one with which we are at present concerned This varies according to the method used for spreading the film and counting the

rheumatism, subsiding in one only to reappear in another, possibly settling itself finally in one or more joints for a long stay But who has not seen true rheumatism do the same thing? One may even find meningeal, pleural and lung complications in gonorrheal arthritis and iritis may occur in the same form that it takes in true rheumatism Osler states that chorea is a rare complication True rheumatism is not infrequently excluded only by the occurrence of suppuration in the joints It is wise, in all doubtful cases, to look carefully for urethral infection

Scarlet fever joints offer less difficulty in separation from true rheumatism on account of the antecedent infection, which is usually obvious Like septicemic joints they occur with almost every manifestation known to true rheumatism, even including chorea As scarlet fever is a disease of definitely infectious etiology, the arthritis which complicates it suggests a similar bacterial etiology for acute rheumatism The other infectious diseases with joint manifestations emphasize this point

Acute arthritis deformans (especially Still's type with its swollen and tender glands, large spleen and boggy, enlarged joints) can not be differentiated in the early stages from acute articular rheumatism The early involvement of small joints, especially in the hands, the long course, with low fever disappearing early, and the evidence of early and definite bone changes may suggest the diagnosis, but time alone settles it in most cases Chronic arthritis deformans needs no special mention McCrae, in his analysis of Osler's cases, calls attention to the frequency of the disease in young adults, a frequency greater than was supposed from earlier studies Edsall and Lavenson's studies show definitely the occurrence of tuberculosis in certain of these joints Cases have been reported where typical chronic arthritis deformans has followed infectious diseases [5] I have now two young women under care the disease in one following a neglected abortion and the other following a low-grade tonsillar infection which did not show plainly its import until the buried tonsils were removed by dissection and the presence of foul-smelling, deep seated small abscesses was shown

The distinction of acute rheumatism from the erythema group with acute joint symptoms is also sometimes difficult, but not so difficult as the distinction between a scarlet fever joint and one occurring in the course of a general desquamative erythema I have reported two such cases with multiple visceral lesions (one having also purpura), in which a diagnosis for several days was very doubtful Both patients had high fever and very definite joint symptoms The variety of skin manifestations in this group needs no further mention than that made in the chart The diagnosis from true rheumatism has been simplified by Osler's four articles on the subject of visceral lesions in the erythema group A review of the subject and literature may be found in my article on desquamative erythema [6]

Infantile scurvy (Barlow's disease) is separated from acute rheumatism in practically every case by the age alone In adults the characteristic symptoms of scurvy, the spongy gums, loose teeth, anemia, big spleen, the tendency to hemorrhage from gums, stomach, kidneys, bowels, or from any bruise, the absence of temperature, the joint effusions, separation of the epiphyses, and in severe cases the necrosis of bone, serve to separate the disease from rheumatism

Hemophilia is distinguished by the history of bleeding and the characteristic involvement of knees or elbows most often without fever This fever is always slight in proportion to the subjective signs. The condition is often chronic, and offers difficulty in diagnosis chiefly from the so-called rheumatic purpura

Of tuberculosis and syphilis nothing further need be said except that the joint symptoms are not usually acute

TABLE OF COMPLICATIONS FOUND IN DISEASES WITH ACUTE JOINT MANIFESTATIONS

Diseases with Acute Symptoms in	Joints	Serous Membranes and Contiguous Tissues				Nervous System			Eyes		Skin	Due Possibly to Throat Infection
		Endo Peri and Myocardium	Pleura, Lungs	Meninges	Peritoneum	Delirium Coma Hyperpyrexia Convulsions	Neuritis	Chorea	Iritis	Conjunctivitis etc.	Erythema Purpura etc	
Acute articular rheumatism	+	+	+	+	+	+	+	+	+	+	+	+
Septicemia etc.[1]	+	+	+	+	+	+	+	?	+	+	+	+
Gonorrhea	+	+	+	+	+	+	0	?	+	+	+	0
Scarlet fever	+	+	+	+	+	+	+	?	+	+	+	+
Other infectious diseases[2]	+	+	+	+	+	+	+	0	+	+	+	+
Acute arthritis deformans	+	+	0	0	+	0	+	0	+	+	+	+
Erythema group	+	+	+	+	+	+	+	0	+	0	+	+
Syphilis	+	+	+	+	+	+	+	0	+	0	+	+
Tuberculosis	+	+	+	+	+	+	+	0	+	+	+	+
Osteomyelitis	+	+	+	+	+	+	+	0	+	+	+	+
Gout	+	0	0	0	0	+	+	0	+	0	+	0
Scurvy	+	0	0	0	0	+	+	0	+	0	+	0
Hemophilia	+	0	0	0	0	+	+	0	+	0	+	0
Spinal cord diseases[4]	+	0	0	0	0	+	+	0	+	0	+	0
Lead poisoning	+	0	0	0	0	+	+	0	+	0	0	0

1 Including pyemia puerperal fever acute arthritis of infants
2 Including typhoid smallpox epidemic meningitis dengue measles pneumonia influenza dysentery etc
3 Including arthritis as it occurs in the erythema group of skin lesions (Osler Amer Jour Med Sciences January 1904) intermittent hydrarthrosis (Wiesinger Deutsche med Wochschr., Aug. 27 1903) polyarthritis with psoriasis (Adrian Mitth. a d. Grenzgeb d Med u Chir vol xi No 2) Schoenlein's purpura, etc.
4 Including tabes acute myelitis and syringomyelia.
5 Bersheim Berl. klin. Wochschr 1906 vii, 430

SUMMARY

1 Diseases with acute joint symptoms which resemble each other in the character of the joint involvement and in the accompanying complications belong to a definitely infectious group

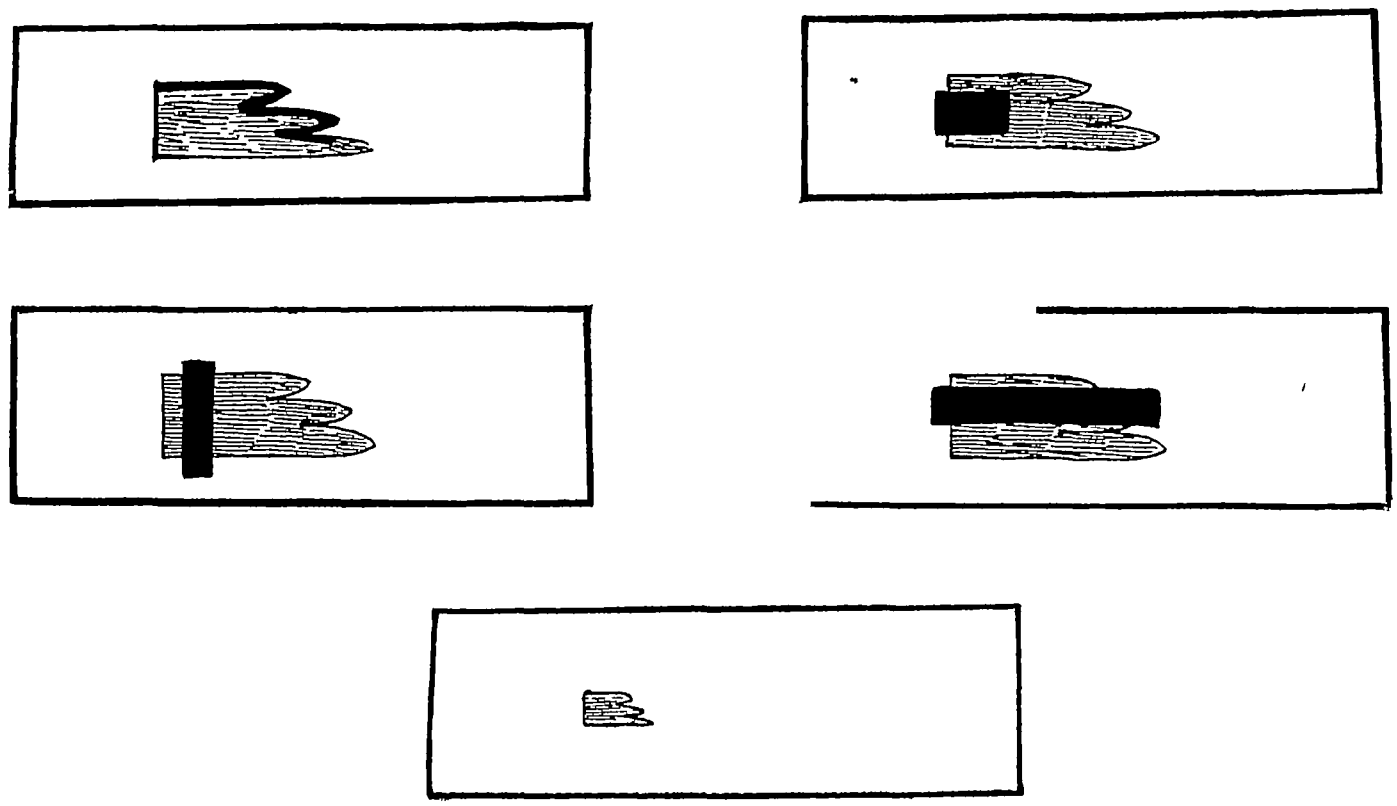
2 The nature of the infection is clear in the following group

Group 1—Septicemia pyemia, puerperal fever typhoid, pneumonia, epidemic meningitis, influenza, dysentery, gonorrhea

6. Boston Med. and Surg Jour Feb 1 1906

THE DIFFERENTIAL BLOOD COUNT

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aortic and mitral valves were involved in 23 per cent, and in the cases in which both aortic and mitral valves were involved the aortic and mitral systolic murmurs were present in 20 per cent of the total, and in 78 per cent of the cases in which both valves were affected The aortic diastolic murmur was the least common of any murmur This fact, together with the absence of the mitral stenotic murmur is probably due to the same cause that the processes necessary for the production of these murmurs belong, particularly to the chronic processes, as retraction and fusion of the valves must occur to produce the lesions necessary for the production of these murmurs It is a well-recognized fact that mitral stenosis occurs most frequently in the subacute and persistent inflammations which extend over a long period of time and are more frequently connected with the chronic myocardial changes than with acute valvular affection Sansom quotes 300 cases, in which the mitral valve alone was involved in 157, or 52 per cent, the aortic in 40, or 13 per cent. In all of the 300 cases the mitral was affected in 255, the aortic in 129, the tricuspid in 29 and the pulmonary in three In 283 cases of chronic rheumatic endocarditis recently analyzed by me in Bellevue Hospital, the aortic valves alone were involved in 51, or 18 per cent, and the mitral valves alone in 159, or 56 5 per cent, both aortic and mitral valves were involved in 73, or 25 8 per cent The tricuspid was involved in eight instances, but always in combination with other valves

Considering the murmurs more in detail we find that in the 51 cases of aortic lesions there was an aortic systolic alone in 22, or 43 per cent, an aortic diastolic in five, or 9 8 per cent, and a double aortic murmur in 24, or 47 per cent In the 159 murmurs at the mitral valve alone 124, or 77 9 per cent, were mitral systolic, 11, or 6 9 per cent. were mitral presystolic and 24, or 15 per cent were double mitral These statistics are interesting as showing the relative proportion as to the situation in the valves, they do not show or show but little as to the extent of the lesion which is likely to occur It is a well recognized fact in cardiac affections that the extent of the damage done in the valve can only be gauged by the amount of hypertrophy and dilatation necessary to compensate the valvular lesion, and the mere record of the compensation of the lesion does not help us in this all-important point The important point to our patient is for us to be able to estimate the extent of the lesion as judged from the compensation and to make a prognosis as to how long this compensation may be expected to continue These questions are also intimately involved with the pericarditis and with the intensity of the myocardial changes

In considering pericarditis in a paper of such short duration that we are only able to consider the various forms of rheumatic cardiac involvement the ratio in which they are liable to occur in rhematic fever, and the effect on the heart in general, we can deal but briefly with this portion of the subject Last year Dr Davis read an interesting paper before this section on the effects of pericarditis on the heart, and he considered the clinical changes which this condition produced, I will therefore not touch on this aspect of the question Pericarditis like endocarditis, is more likely to occur in children than in adults In a paper read last year in Boston before the Section on Diseases of Children Dr Dunn showed that in 300 cases of rheumatism in children pericarditis occurred in 58 cases In my 500 cases in Bellevue Hospital, which were practically all adult cases, pericarditis occurred in 24 Sibson in 1877, reported 326 mixed cases in children and adults occurring in the fifteen years ending in the autumn of 1866, of these 63 showed pericarditis

Patients in whom pericarditis develops are usually also afflicted with endocarditis and the heart is inflamed without and within In Sibson's cases 9 of the 63 had pericarditis without endocarditis In my 24 cases 4 escaped endocarditis In Dunn's 58 cases but 2 did not show some endocardial murmur In Sibson's cases pericarditis developed in one-sixth from the third to the sixth day after the commencement of the disease, in one half the friction murmur was audible on or about the eleventh day In only 7 of the cases did the pericarditis show itself so late as the twenty-fifth day and from that to the sixty-third after the onset of the acute rheumatism, in one-eighth of these cases it was evident that the onset of the cardiac inflammation, both internal and external, took place at the very beginning of the disease, and at the same time with the onset of the inflammation of the joints Dunn shows that primary pericarditis, that is pericarditis without other manifestations, is fairly common in children, and that in 30 of his 58 cases there was pericarditis alone or pericarditis with endocarditis as the sole manifestation of the infection

In adults, pericarditis as the primary manifestation of acute rheumatism is not common, but it does occur, and I can remember three cases in the last ten years in my service in Bellevue Hospital in which the pericarditis has been the only symptom manifest for several days before the outbreak of the inflammation of the joints

Sibson also draws some interesting deductions in regard to sex, age, occupation and the occurrence of pericarditis in rheumatics, which show that below the age of twenty-one it occurs in the two sexes in nearly equal proportions, but a little more frequently in the male than in the female Above the age of twenty-five men were attacked three times more frequently than women He draws attention to the great frequency of pericarditis in young servant girls He concludes that in acute rheumatism affecting the female, that youth with labor is nearly always attacked or threatened with endocarditis or pericarditis or both, that youth without labor is thus attacked with comparative infrequency Mature age with labor is attacked less frequently and much less severely with inflammation of the heart than youth with labor He shows also that men following indoor occupations seem to be affected in the same ratio as the female patients, and that in men pursuing outdoor occupations, pericarditis occurs much more frequently in those of mature age when their work is hard but not when it is comparatively easy

It is thus seen that endocarditis and pericarditis are most commonly the recognized manifestation of a general infection in children, and that in young adult life, in those whose resistance to the infection is reduced by overwork, the number of cardiac inflammations are disproportionately large The liability to endocarditis and pericarditis disappears with advancing age, and only in those whose resistance is reduced by overwork and exposure does the liability to cardiac inflammation become great. When the pericardium is inflamed the inflammation is not limited to the serous membrane, but it extends down to the muscle of the heart, and we have to deal with a rheumatic myocarditis as well

So far as the permanent effect on the heart is concerned, the pericarditis is much less serious than the

That the most uniform results are obtained by making a very small film and counting every leucocyte on that film

That if for any reason the above method cannot be adopted, the one described as method "D" should be substituted, remembering that by this method the percentage of the large mononuclears and polymorphonuclears are slightly underestimated

Also that, whatever method is adopted, not less than 400 leucocytes should be counted

REFERENCE

Technique of the Teat and Capillary Glass Tube By Sir Almroth E Wright.

A Mirror of Hospital Practice.

A CASE OF HYPERNEPHROMA OF KIDNEY

By GOKUL CHAND,

S A S, Kahrur, Multan

A MOHAMMADAN male, aged 40 years, was admitted into hospital for the following trouble —

Present history—Severe and constant pain in the left loin and lumbar region, frequent and painful micturition, passing of blood and pus in the urine

General health was very poor, there was loss of appetite, furred tongue, constipation, sleeplessness and emaciation but no rise of temperature

Urine—Scanty, acid, high coloured and contained pus and blood

Previous history—Duration—5 years Five years back the patient felt one day a burning sensation in the meatus of the urethra which lasted for about 24 hours, this was followed by dull, aching pain in the left loin and lumbar region which lasted for about a year and a half One day while working in the fields he felt an inclination to pass urine and as he sat down to do so he was astonished to see that he was passing pure blood instead of urine and this he did several times in a day This, however, gave him complete relief from the pain in the loin and lumbar region, but as soon as the blood stopped, the pain re-appeared in a severer form and extended to the bladder, urethra and the meatus, and this severe pain lasted for full four days, which was relieved again by the passage of blood, but this time mixed with pus and this finished his trouble too He was quite free from any pain for the next two years and a half For the last ten months, he has been suffering from the present troubles with no interval of relief and this has reduced him to the present state of health

Diagnosis—I performed four nephrectomies for stone during my stay in the hospital quite successfully and the patient had exactly similar signs and symptoms, so I naturally suspected stone in the kidney and advised an exploration of the kidney

Operation—The kidney was exposed posteriorly and was found to be abnormally big but no stone was felt The wound was enlarged and the kidney was drawn out of the wound when a growth, instead of stone, was seen occupying the whole of the pelvis It was very soft and felt like brain substance After ligaturing the vessels and the ureter separately at the hilum, the kidney was completely removed The wound was closed with a drain and dressed antiseptically

The patient, though very weak, stood the operation well and made an uneventful recovery He was discharged cured on the 20th June, 1921 With the removal of the kidney all his troubles went away and the man is still living and pursuing his ordinary vocation

Major W Leonard Forsyth, I M S, Professor of Pathology, King Edward Medical College, Lahore, reports on the specimen as follows —"The tumour occupies a large area of the upper pole of the kidney and shows areas of necrosis and small hæmorrhagic zones Microscopically it has the structure of a typical hypernephroma showing columns of cells derived from the renal epithelium held together by septa of connective tissue"

A DIFFICULT OBSTETRIC CASE AFTER VENTRO-FIXATION OF THE UTERUS

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THE patient, a 3-para, had had one child previous to operation and one child after the uterus had been fixed On the last occasion no difficulty was experienced in the delivery of the child, the only trouble being caused by an adherent placenta which apparently was manually removed

On this occasion Mrs M (European) was attended by the Assistant Medical Officer in charge of one of the outlying stations She commenced labour pains on the previous day and when I was rung up had been in labour for 36 hours Owing to weather conditions there had been a break in the wire and I could not be informed earlier On my arrival I was informed that the mother had been in the second stage for four hours, she was greatly distressed and the fœtus had already passed meconium Pains were severe and frequent and the woman shrieking morphia gr ¼ was injected, after which the patient became more amenable to treatment Vaginal examination disclosed large hard scybalous masses in the rectum, in themselves sufficient to obstruct labour mechanically A soap and water enema was given with poor result With a gloved hand in the vagina the entire contents of the rectum were propelled through the posterior vaginal wall and evacuated The mother was anæsthetised, the pubes shaved

THE VACCINE TREATMENT OF GONORRHEAL VULVOVAGINITIS IN CHILDREN

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AND
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Among the bacterial infections in which local antiseptic treatment does not always prove satisfactory, gonorrheal vulvovaginitis may be well included

It appears clear that whatever organisms are on the surface of the mucosa in such an infection will be disposed of, in great part at least, by the action of antiseptics, but those at a deeper level will be inaccessible to their action Many such organisms so located may be taken care of by being washed to the surface by lymph - A great task, however, will still remain for the body to accomplish, namely Destruction of gonococci beyond the reach of local medication through its immunizing mechanism

As the immunizing apparatus is ordinarily slow in effecting this, we attempted to call on it in a number of cases for increased labor through the stimulus of vaccine therapy, withholding at the same time all other treatment, and we present below our findings in the cases so treated

Wright's technic was adhered to in estimating the index As this latter has been so frequently discussed we feel that we can dispense with describing it

It may, however, prove of some interest to those busy with the gonococcus in this work, to mention some of our experiences with it Contrary to what we expected, we have not found it a difficult organism to work with The media employed for its cultivation were blood serum and blood agar It seems to bear considerable variations in temperature and to remain viable for a number of days Blood agar has proved especially satisfactory for propagating its growth

In regard to the preparation of an emulsion, we have found that if a culture of gonococci of from six to eight hours old is used there is no trouble with clumping It is our custom, therefore, to make a culture from six to eight hours before we wish to use it Cultures twenty-four hours old give rise to so much clumping that we can not well understand how accurate results can be obtained when they are used We think that the use of young cultures is one of the important points in minimizing the difficulties of opsonic work in general

We employ an emulsion that will average from four to eight gonococci to a cell believing that less inaccuracy will result than when an emulsion averages one or two to a cell

What holds good in the preparation of the emulsion for the testing of the blood also holds good in the vaccine emulsion

If in this instance young cultures are used, standardizing of the vaccine is possible and practical in contrast to the impracticability of breaking up the clumps found in emulsions prepared from older cultures

The time for incubating in the technic for obtaining the index with the gonococcus depends on the thickness of the emulsion Our usual time is fifteen minutes

A word as to staining may not be out of place, as the plan we adopted proved especially serviceable After fixing in a bichlorid solution and washing we place the slide in a 2 5 per cent solution of sulphuric acid for several seconds, until the coloring of the smear fades, it is then washed off in water and stained with an alkaline aqueous solution of methylene blue for one minute This makes an excellent slide for counting

In determining our index we have taken the average phagocytic count of four healthy children as our normal

The vaccinations were interspaced according to the index, making an effort, so far as possible to give the patient the injection before an index declined below normal We do not feel justified in generalizing as to dosage of vaccine, nor in making any statements as to the time the index will remain above normal after vaccination We have found that the dosage varies in different cases, and can be determined only by investigating for each individual case the immunizing response to a given dose as indicated by the index This may be observed on inspection of some of the charts in which can be seen that while little or no response may follow a small dose, and likewise a large dose, apparently, for the individual, a marked rise in the index will be found following a dose between the two extremes The minimum dose used was one million and the maximum fifty millions

We used two vaccines, which are designated vaccine *a* and vaccine *b*

Vaccine *a* was prepared from a culture taken from one case of gonorrhea Vaccine *b* was prepared from cultures made from four cases of gonorrhea They were both standardized to 20 000,000 per cubic centimeter

No effort was made to isolate the gonococcus in each individual case The children treated ranged in ages from one and one-half to twelve years Ten of the cases were the result of a ward epidemic The other two patients entered the hospital with gonorrhea No unusual complications referable to gonorrhea developed in any of the children

CASE REPORTS

In view of the importance of the charts in following the course and result of treatment, a few words of explanation may render them clear, at a glance The figures at the top of the charts represent the days of the month The figures to the left of the charts represent the index figures At 1 (of these figures), which is the normal index, a heavy line is drawn through to right of chart The diagonally joined lines represent the abnormal indices with relation to the normal

The arrows directed downward represent the vaccinations, the figure at upper end of them the amount of vaccine used in millions, and (a) or (b) the vaccine injected The notations in the lower part of the chart relate to vaginal discharge of patient and result of examination of smears, taken either from vaginal mucosa, in case there is no discharge, and in case there is from same The abbreviations No D = no discharge —S = negative smear, + D = discharge present, + SD = slight discharge, + S = positive smear As few notations as possible are used to avoid confusion

CASE 1.—Age 21 months Profuse vaginal discharge was found September 17, 1907, and smears showed gonococci On September 20, treatment was instituted with the result noted in Chart 1 Prompt improvement was observed in the general well being of the patient and lessening of the discharge which is noted as absent October 10 and had been so for several days previously The discharge did not recur two smears, taken on October 13 and 17 were negative and the child was discharged from hospital October 22, free from all traces of gonorrhea.

CASE 2.—Age 4 years Vaginal discharge was first reported Aug 13 1907 Microscopic examinations of stained specimens of discharge revealed gonococci The girl was treated daily by douches of a potassium permanganate solution, followed by vaginal instillation of 20 per cent argyrol solution from *August 13 to September 27 without any apparent effect* The discharge was reported as profuse on September 27 when a smear was found to contain gonococci She was then placed on

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(*Vide* Presidential Address, British Pharmaceutical Congress 10th July 1918)

CASE 11.—Age 4 years. The patient was reported with a vaginal discharge, which proved to be caused by the gonococcus, September 5. She was given local antiseptic treatment without any improvement being observed. Vaccinations with dead gonococci were started September 17. The discharge diminished considerably but persisted as a "perceptible discharge," with occasional reports of "considerable discharge," following closely the rise and fall of the index, until November 28, when it ceased and has not recurred. Several smears since this time have proved negative. (Chart 7.)

CHART 12.—Age 4½ years. A vaginal discharge which contained the gonococci, was found in this child August 31. She was given the usual local treatment from September 13 to 26, when she came into our care. The discharge at this time was very profuse, and smears showed gonococci. Her phagocytosis for gonococci was practically *nil*. She responded well to vaccine treatment, the discharge lessening promptly. A slight discharge persisted on and off until November 5, when it ceased and all smears proved negative.

SUMMARY OF CASES

Before discussing the results of vaccine therapy in the above cases, we would like to direct attention to the

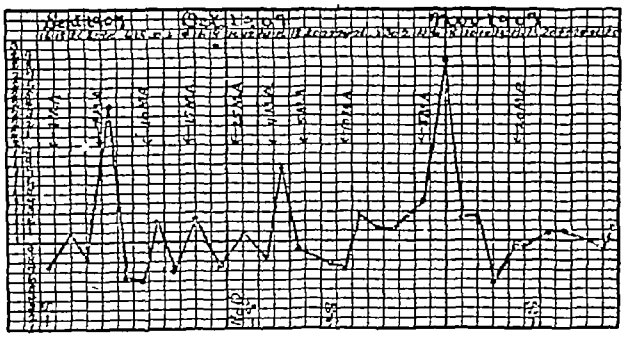


Chart 5.—Illustrating the opsonic index in Case 6.

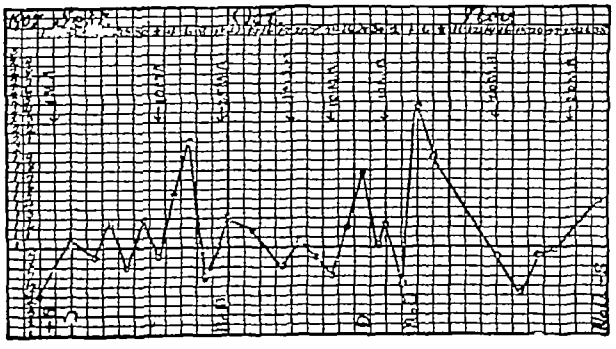


Chart 6.—Illustrating the opsonic index in Case 11.

results obtained by local treatment. The following are twelve cases of gonorrhea in female children treated by douches of potassium permanganate usually at four-hour intervals followed by instillation of 20 per cent. solution of argyrol. There were no special complications in these cases. For purposes of brevity we will mention merely date of beginning and ending treatment and their status as to gonorrhea on the latter date.

CASE 1.—Treated from January 10 to February 28, when patient left hospital, still discharging and smears showing gonococci.

CASE 2.—Treated from January 31 to February 26, removed from hospital, discharge profuse.

CASE 3.—Treated from January 8 to February 9, said to have had no discharge five days before leaving and negative smear on leaving.

CASE 4.—Treated from January 12 to February 7, reported as having scant discharge on leaving hospital same day.

CASE 5.—Treated from January 4 to February 4, said to have had no discharge on leaving on this date, no report on smears.

CASE 6.—Treated from January 6 to February 1, reported with moderate discharge on leaving hospital on latter date.

CASE 7.—Treated from November 19 to January 22, left on latter date with slight discharge.

CASE 8.—Treated from January 24 to February 20, when she was taken from hospital still having slight discharge.

CASE 9.—Treated from November 30 to December 29, discharge present when leaving hospital on latter date.

CASE 10.—Treated from November 14 to December 24, when patient left hospital still discharging.

CASE 11.—Treated from June 14 to September 18, three days before leaving hospital had profuse discharge.

CASE 12.—Treated from February 7 to July 26, when patient was reported without discharge, no report on smears. Patient was 5 months and 19 days under treatment.

A comparison of clinical cases, for the purpose of finding the results of different lines of treatment, becomes of value chiefly when a large number of cases come under consideration, in which circumstance a better average as to intensity of infection and resistance of patients may be expected than in a limited number of cases, as in the above instances. The differences observed in these cases are sufficiently pronounced, however, to attract one's attention to the possibilities of vaccine treatment in gonorrhea in the female.

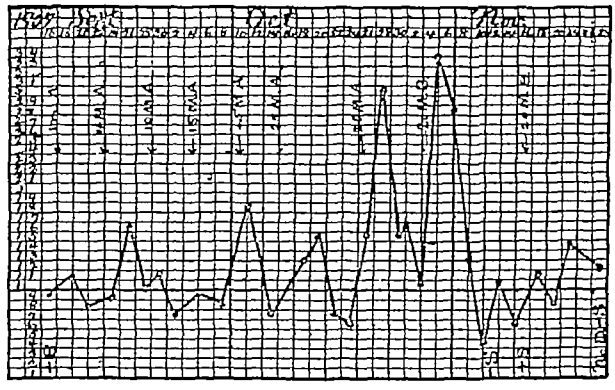


Chart 7.—Illustrating the opsonic index in Case 11.

It will be observed that in four of our cases treated with vaccine the clinical evidences of gonorrhea disappeared in from ten days to three weeks, and that the gonococcus was not to be found in smears made from wipings from the vaginal mucosa, taken at intervals of several days. Of the remaining eight cases in all but three (Cases 9, 10 and 12) a cessation of discharge and disappearance of gonococci from smears was attained after several weeks of treatment.

In the more protracted cases a change of vaccine was made to *b*, with very prompt results in two of the cases (Nos. 11 and 12).

In three (Cases 9, 10 and 12) of our cases the sequences of treatment have been not a little handicapped by inability to control the disposition of them. When a child under treatment shows subsidence of clinical symptoms, and a disappearance of discharge, and even has only one negative smear, she should be removed at once from a general venereal ward, in other words, she should be isolated, to protect her at least from reinfections.

The opportunities for infection and reinfection of female children in a gonorrheal ward are well known to pediatricians. Detention in a venereal ward after the

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me as regards "saving his teeth" I found a lack of tonicity present in the alveolar processes to a moderate degree, together with marked pyorrhea alveolaris Following my usual routine, I had his urine examined and 0 75 per cent of sugar was found I mailed the report of the urinalysis to his family physician with a request that Mr S be kept under observation and treatment, in order that the best results might be obtained from the dental work which was being done The family physician informed me that the quantity of sugar was not to be regarded as pathologic, and did not institute any form of treatment The ethics of a situation like this are clean cut The expediency of the resultant course is somewhat blurred, as the patient in the above case can not gain satisfactory results while suffering from a lowered resistance, due to what I believe to be a low grade, slowly progressing case of diabetes

The second division of the common ground is made up of those cases where the highly specialized knowledge of the dentist should make him the natural consultant to the physician trying to unravel some of the many obscure conditions which confront him, obscure particularly in etiology

Taking up in detail the first division which I have made, we may further subdivide these conditions into poisonings and systemic diseases where the mouth first shows the clinical picture and keynote of the diagnosis

To the classical poisonings of lead and mercury from therapeutic or trade sources may be added those of copper, silver, phosphorus, and the less often recognized iodin and bromid poisonings or saturations And here let me emphasize the absurdity of undertaking extensive dental operations while the patient is on even small doses of bromids Not infrequently patients are referred to me on account of acute subjective symptoms, carrying in their pockets prescriptions containing bromids, "something to quiet them until they get relief at the hands of the dentist" It is impossible to get ideal results in a patient whose physician is thus tiding over the strain incidental to, or the cause of, extensive dental operations I believe this to be true in spite of the fact that many of the best men in the profession are advocating bromids as a routine treatment when the patient shows the effect of nervous strain during prolonged dental work

The mouth it would seem, is particularly sensitive to systemic diatheses and diseases Rheumatism, gout diabetes, Bright's disease, syphilis, less often tuberculosis, and many other diseases, will often show themselves there first, and the dentist, if he is a good diagnostician, may read the diagnosis plainly long before the subjective symptoms would force the average patient to consult a physician

Time after time have I appealed to the physician to aid me by building up the general resistance of his patients when the condition of the mouth was either the immediate or the predisposing cause of a series of obscure symptoms involving the digestion immediately, and, more remotely the entire body Time after time have I seen the patient receive nothing more extensive than a few kind words about "a malarial tendency" or "a little anemia," together with a few Blaud's pills or an empirical iron, quinin and strychnin mixture Before these conditions can be changed entirely, perhaps a more general scientific, diagnostic and therapeutic medicine must be practiced In the meantime I would make a plea for the recognition of the fact that a diagnosis made from observations based on the condition of the patient's mouth may be a scientific one and is not to be discarded because made by a dentist. Let the physician recognize that the mouth is often the keystone of diagnosis and that the dentist, if he is an observer, must acquire clinical experience in using the mouth as such

It is but right to say that within the last five years I have noticed a great change in the attitude of the medical profession as regards courtesy in weighing a suggestion

Without taking up in detail the local effects, as shown in the mouth, of the various systemic diseases and poisonings I would make a special appeal for the sure and conservative recognition of syphilis, whether in its primary or secondary stage This is especially the case where a negative diagnosis is the correct one The following case at present under my care will illustrate exactly what I mean

CASE 1.—Mrs X., 20 years old, while being treated for incipient pyorrhea alveolaris, developed a suspicious chancre like sore on the base of her left tonsil Her physician, after some difficulty, got a history of possible exposure (innocent) After observations of a few days he made a diagnosis of a primary syphilitic infection of the throat Fortunately, I was interested in seeing whether the *Spirochæta pallida* was present, and with his permission I had a number of cultures and smears made The report, coming within a few hours, cleared up the situation The smears showed numerous bacilli present, and for the most part these were the bacillus of Vincent

I believe that there are many more cases of concurrent throat complications during dental operations than one would gather from literature These complications, while in part due to faulty technic, are, I think, in the main part due to the common rheumatic etiology of tonsillitis and dental conditions, such as pyorrhea alveolaris

The conditions which make up the second division of the common ground for the dental and medical professions will naturally vary, as the mental and technical equipment of the individual, the rhinologist and laryngologist and the specialist in orthodontia have much in common that can not especially appeal to the busy family physician and the dentist buried in bridge work But this may be said, that in every man's practice cases often occur where the specialized knowledge of the dentist will solve some of the problems of treatment The obscure stomach cases, the cases of facial neuralgia, the adenoid face that has not yielded to removal of organs, these and many more every-day problems are part of the common ground

To take up some of the aspects of the condition common to all mankind, here surely has the physician had full control for centuries, and to-day it is interesting to get the ideas of a body of physicians as to whether the disorders commonly associated with first dentition are physiologic or to be regarded as a relic of the dark ages, with "milk fever"?

THE DEVELOPMENT OF THE ORAL CAVITY

Without entering into a prolonged discussion as regards the embryologic development and the evolution of the digestive tract in the infant, some of the common-sense factors in the building up of the oral cavity and its boundaries in early life may be mentioned The alveoli especially are plant in the baby, and the two main factors in their molding are undoubtedly the tongue and the lips Physiologically, the natural exercise of the infant is suckling In the bottle-fed child this process is either eliminated entirely or reduced to a

Indian Medical Gazette

MAY

THE TREATMENT OF MALARIA

"CHACUN a son goût" is a well tried proverb, but perhaps it is nowhere better illustrated than in the treatment of malaria There is first the method adopted by the busy practitioner Inadvertently or otherwise this results in making him busier still It is ideally simple the patient is given sufficient quinine—usually in tabloid form—to relieve him of febrile symptoms the quinine is then discontinued four to six weeks later a relapse sets in the procedure is repeated further quinine administered, and further fees earned In the long run, and especially if the case be one of benign tertian infection, the patient becomes a "malarial saturate" Secondly there is the method adopted by the old-fashioned practitioner who thoroughly believes in quinine and agrees with the erroneous statement in the text books that "the therapy of malaria may be summed up in the one word quinine" The results were strikingly illustrated in the case of a very anæmic governess seen after she had been taking 30 grains of quinine a day in solution for three months under the advice of a distinguished clinician Whether this patient had or had not had malaria is doubtful, since no blood examination was made When seen three months later however, she was suffering, not from malaria, but from quinine intoxication The gastric function was in abeyance, tryptic digestion was nearly nil, she had lost a stone in weight, and could hardly hear Lastly, there is the method of the medical man who wishes to be really up to date and who goes in for the latest thing which he has seen in the journals, whether intramuscular cinchonine dihydrochloride or intravenous "colloid" quinine

Under these circumstances the importance to India and to the practice of medicine in the tropics of the recent work of Major H W Acton, I M S, and his colleagues can hardly be over-estimated This investigation was carried out in three parts a preliminary investigation in conjunction with Major P M Rennie, I M S and Miss Dagmar Curjel at the Dagshai Malarial Convalescent Depôt for British troops a most painstaking and searching pharmacological enquiry under the Medical Research Council at Hampstead and further investigations which are now being carried out at the Calcutta School of Tropical Medicine in conjunction with Major R N Chopra, I M S

Dagshai proved to be an ideal centre at which to study the problem of malarial relapse In the plains any investigation of this question is apt to be vitiated by the possibilities of re-infection from infected mosquitoes At Dagshai such re-infection could be absolutely excluded, and hence all fresh attacks of malaria which occurred among the Dagshai convalescents could with certainty, be regarded as relapses or recurrences of a prior infection A study of such relapses first brought to light the exceedingly important fact that whereas the malignant tertian parasite is very little associated with malarial relapse, the benign tertian parasite is especially associated with relapsing malaria, and the quartan parasite even more so In brief whereas the M T parasite is the parasite of epidemic and fulminant malaria, the B T parasite is the parasite of endemic and relapsing malaria The convalescents at Dagshai had all been through a course of quinine treatment before their transfer to the hills, and it became obvious that whereas M T infection is susceptible to and readily cured by quinine administration, B T infection is much more resistant

With this fact once established Major Acton proceeded next to the experimental investigation on a large scale basis of different methods of quinine administration in benign tertian infections Here it was found first that the intravenous administration of quinine is the quickest road to a clinical cure Under intravenous quinine the peripheral blood becomes immediately free from asexual parasites and the temperature drops to normal Treatment by intravenous quinine however was associated with a 70 per cent rate of relapses and as pointed out experimentally by Colonel Cornwall, Colonel McCarrison and Dr Brahmachari intravenous injections of quinine are apt to be associated with a serious and even dangerous fall in blood pressure This method should therefore be reserved for critical cases and for cases intolerant to quinine taken orally With regard to intramuscular injections all the cinchona alkaloids produce local necrosis of the muscle into which they are injected, whilst if an acid salt be used local hæmorrhage and œdema are superadded, and if a nerve be

work on The dentist must appreciate the fact that the mouth is a part of the whole body, an important part, but only a part He must think in terms of interchangeable scientific expressions of thought, so that his findings, observations and deductions are easily interpreted by the physician He must keep pace with the best in medicine, for only those physicians who stand for what is best in medicine can and will appreciate what is best in dentistry The mediocre man in either profession will of necessity stick to his own particular last, but if the dentist will record and read his daily findings correctly he will find that his experience must more and more elucidate some of these problems of medicine, his work will be of double interest to himself and he will open up fields hitherto undreamed of

The physician, on his part, must recognize that the mouth as a seat of disease is often overlooked, and that the logical consultant in many cases is the dentist, who, by virtue of his constant clinical experience of the normal in the mouth and teeth, must acquire the knowledge that is necessary for the unraveling of symptoms pointing to the mouth as a seat of trouble I recognize that it is unfortunate that all dentists are not physicians but this is a misfortune for which the patients should not be made to suffer, as suffer they often do because of the lack of appreciation by the dentist of the fact that the local conditions he is coping with are but manifestations of a systemic trouble, or because the physician does not realize that the science of dentistry involves more than a mere stopping of holes or pulling of teeth

Let the physician choose his consulting dentist with the same care that he does his consulting surgeon—with more care if possible—for all his patients will have to visit a dentist while only a small proportion will need surgical intervention Let him keep abreast to a small extent of dental literature, not necessarily the most technical, but the general literature Let the dentist think and work in terms scientifically interchangeable with the physician, then, and then only, will the common ground need no defining

DISCUSSION

DR. FRANCIS A FAUGHT, Philadelphia, agreed that the specialties of medicine should include dentistry, but he said, all the specialties of medicine should, in a way be specialties of dentistry because one can not get away from the diseases of the nervous system the stomach and nose in relation to the teeth He has been impressed with the failure of dentists, as a rule, to report findings and subsequent observation on cases There is a lack of information and some statements are absolutely erroneous Dr Faught felt that because of the relation of dentistry to medicine one should have better training in diagnosis especially in relation to the heart and the giving of anesthetics It is important that the condition of the heart and of the internal organs should be known, and that the giving of an anesthetic where such a thing is contraindicated should not be done by the dentist The same may be said of the kidneys The dentist should do this for his own protection if for nothing else In regard to the question of dietetics and hygiene in the treatment of diseases of the mouth not so much of caries as of inflammatory conditions, an adequate working knowledge of the excretions and secretions particularly of the saliva and urine, becomes important

DR. H C REGISTER Philadelphia, said that in a number of cases the importance has been strongly impressed on him of the necessity of early diagnosis of many pathologic conditions of the mouth that opportunely come under the observation of the dentist or stomatologist and that otherwise would be lost sight of until a condition had been reached that would probably terminate in death Dr Register referred especially to carcinoma He has diagnosed the presence of carcinoma very early, when it was yet a local condition, before metastasis was developed While it was in a local condition its removal was favorable to a complete cure In one case a fibrous tumor developed itself at the angle of the mandible It had been removed by a general surgeon three times The patient represented himself to Dr Register, thinking that something in connection with the teeth might be the cause Dr Register found that the third molar was devitalized and in a putrescent state, and on opening into the pulp chamber he soon established that the tumor originated from that cause In diagnosing these cases of fibrous tumors Dr Register has received much assistance through the use of compressed air After washing out the tracts germicidally, he applies sterilized air under pressure, and if the air follows the tracts one can soon ascertain whether they are associated with a devitalized condition of the teeth On several occasions Dr Register has shown that these fibrous tumors originate from devitalized teeth and succeeded in diagnosing them very quickly in this way He operated in this case and the tumor gradually dwindled away and dried up by the correction of the toxic condition of the tooth and the surrounding tissues of the jaw As to the mechanical side of dentistry, Dr Register stated that he could not see that there is any difference between the mechanics of dentistry or stomatology and the mechanics of every specialty in medicine or general surgery The general and special surgeon must use mechanical assistance He uses it, not *per se*, but as a means to an end In dentistry it is used for the same purpose The application of mechanical devices used in surgery is unlimited. The very first example of mechanics used in surgery, he continued, was given by John Hunter, who, unfortunately, tore the Achilles tendon of one of his feet, and he was a lame man for quite a while It was through an accident that Hunter brought about, by means of mechanics, one of the best things for the cure of club foot known to day The cure of injuries of the spinal column could not be effected without the surgical mechanical treatment And so, he said, it is in all departments of medicine Mechanics are constantly used by the general surgeon and by specialists in other branches as well as in dentistry The trouble with dentistry, he continued, is overregard for mechanics It is not so much that dentists use mechanics as a means to an end, but they make it the end itself That is one of the great mistakes they make In Dr Register's opinion the fields of dentistry and medicine are one, and the purpose of one so thoroughly includes the purpose of the other that he can not see how men who want to be broad in their ideas and who expect to do the best for their patients, can do otherwise than accept the doctrine that medicine alone is the only means by which the highest efforts of dentistry are to be accomplished

DR JAMES F POWER, Providence, R. I., believes that every practitioner of dentistry should possess a medical education, but not necessarily a degree in medicine He should possess a thorough knowledge of that medicine which pertains to the intelligent practice of dentistry The course of instruction necessary for the degree of medicine would broaden the mind of the individual, but not any more than would the courses required of the candidate for the bachelor of arts degree The better a man's education may be, the greater is his power and ability to accomplish the transformation of energy Dr Power thought that Dr Fossume fixed a standard of education, maintaining that if a patient is placed in the hands of a dentist of the type considered he would be entirely safe, and if the disease should travel into the realms of pathology with which the dentist is not familiar, he would, at least, be sufficiently familiar with the fundamental principles of general pathology to recognize conditions as they arose and call a consultant Thus his relation to his patient would be perfectly honorable, and he would be justly considered a valuable member of his profession Dr Power believes that dentists are taken at their own estimate They fix the standard of the profession If they place a low estimate on dentistry the public and the medical profession will take them at that estimate He regards proper preliminary education as of the greatest importance in that connection There is no better way, he said, of teaching the public and the medical profes

general use We stand, in brief, on the threshold of a new chapter in the treatment of malaria

There remains only to add that the work is undoubtedly being appreciated The action of British chemists is perhaps, the best tribute to Major Acton's valuable enquiry In 1917, quinidine could be bought in London for 15*s* per lb and was chiefly used to adulterate quinine To-day its cost stands at £4-15 per lb and £8-13 per lb for hydroquinidine and quinine will probably come into use to adulterate them

PRESCRIBING FOR SYMPTOMS

THERE are two methods by which the practitioner of medicine may degenerate into a quack The first is to regard his medical education as completed, instead of as only commencing, on the day on which he qualifies The second is the very popular custom of prescribing for symptoms Many examples of this popular form of "treatment" could be given, but present day methods of treatment of dysentery afford, perhaps, the most striking instance According to Dobell some ten per cent of persons in the tropics harbour *Entamœba histolytica,* but in only some ten per cent of persons thus infected does the entamœba give rise to symptoms of dysentery That emetine sometimes or often effectually cures amœbic dysentery is a statement not open to dispute, although its mode of action is still obscure, and it has no direct effect on *Entamœba histolytica* even in a dilution of 1 in 10,000 Yet to-day emetine is being used in the treatment of bacillary dysentery to an almost incredible extent The more carefully the dysenteries of India are investigated the greater becomes the importance of bacillary, as contrasted with amœbic, dysentery Of in-patient dysentery cases bacillary cases preponderate over amœbic in something like a proportion of 5 or 6 to 1 In fact amœbic dysentery is not infrequently walking dysentery, and the patient still able to carry on his work whereas in bacillary dysentery the onset of toxæmia and of febrile symptoms compels the patient to lie up Yet the usual history of a case of bacillary dysentery is that the patient takes to bed, a doctor is called in, and emetine administered Nature cures the patient, emetine gets the credit, the physician pockets the fee, the patient is cured, and everyone is satisfied, although the real facts of the case have been obscured "God cured the patient" said pious Ambrose Parre, long before the days of aseptic surgery, but candour compelled him to add "and the surgeon took the credit"

The true aim of medicine is to attempt at least to accurately diagnose and appropriately treat disease And in the tropics diagnosis is of the utmost importance Malaria, for example, is the most protean of diseases It can only be accurately diagnosed by finding the parasites in films of the peripheral blood As pointed out by Colonel S P James the examination of a single blood film from a case of untreated malaria yields a positive finding in only some 40 per cent of cases but with each additional film and each additional examination the chances of accurate diagnosis are increased Yet perhaps the majority of medical practitioners in the tropics neither use a microscope themselves, nor make use of such laboratory facilities as are available It is the exception, rather than the rule, to meet with a case of dengue influenza or enteric fever which has not been drenched with quinine—to the detriment of the patient's chances of early and safe recovery

Once embarked on the habit of prescribing for symptoms in place of attempting to accurately diagnose and treat diseases, the descent of the medical practitioner to the level of the medical chemist is easy Hæmoptysis becomes synonymous with phthisis, an enlarged spleen with kala-azar, and fever with malaria—until the unsuccessful administration of quinine has proved the contrary The practitioner goes in more and more for those enormous tomes which are so prominent a feature of recent medical literature —books which constitute an index of symptoms and their treatment, regardless of the primary diseases concerned

A single illustration may be given to emphasise the importance of accurate diagnosis of disease as the basis of all logical treatment An elderly clergyman, during the course of a tedious and protracted convalescence after typhoid fever, was attacked with fresh fever and rigors, and with almost every symptom of acute rheumatic fever

He had always been subject to severe attacks of rheumatism, and a brother had died from acute rheumatic fever The diagnosis, on clinical symptoms alone, seemed obvious but salicylates brought no relief, and the case became critical One day however, a rigor occurred which seemed typical of malaria blood films were taken and innumerable benign tertian

scess situated in the right space does not communicate with the left, unless the septum between the two is broken down Each subphrenic space is again divided, incompletely, into an anterior and posterior space by the coronary ligament. A portion of the right lobe of the liver is not covered by peritoneum, owing to the separation of the two layers of the coronary ligament This area is about the size of the width of the palm of the adult hand, but it plays no rôle in the pathology of subphrenic abscess The right lobe of the liver lies in almost direct contact with the lower portion of the bony thorax, being separated from it by the diaphragm and the costophrenic sinus of the pleura

Subphrenic abscesses may be located within the peritoneal cavity or in the retroperitoneal tissues If intraperitoneal, the abscess may only occupy a small portion of either subphrenic space, either laterally or in

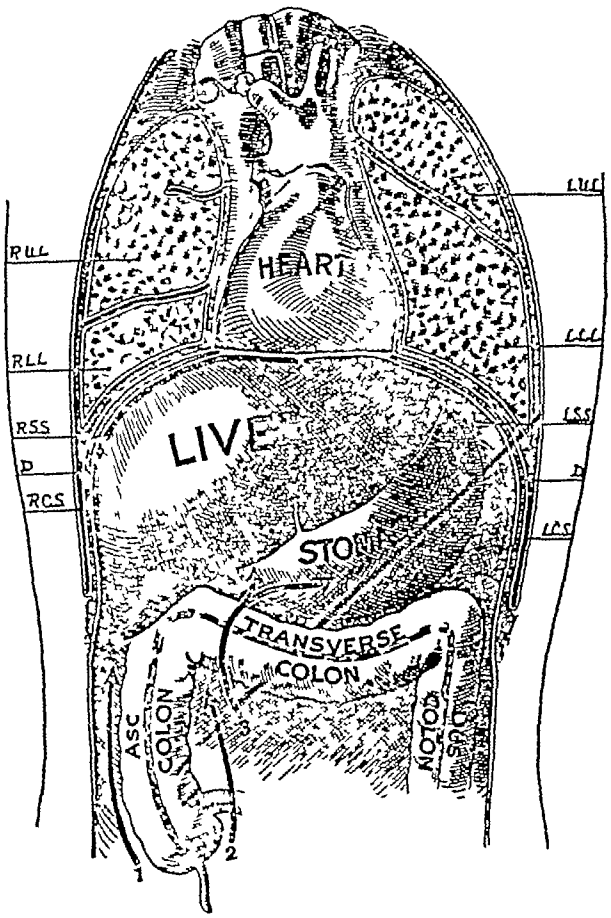


Fig 1—Modes of transmission of infection to right and left subphrenic spaces from appendix region 1 Along outer side of colon 2 Along inner side of colon 3 Across transverse colon and stomach The double arrow 3 shows that infection can either travel in front of the stomach and cause an abscess in the general peritoneal cavity between the spleen and liver or the infection can pass through the foramen of Winslow into the lesser peritoneal cavity R U L. right upper lobe of lungs. R L L right lower lobe R. S S right subphrenic space. D., diaphragm R C. S right costophrenic sinus L. U L., left upper lobe of lungs L. L. L. left lower lobe L. S S., left subphrenic space. L. C S left costophrenic sinus

front or behind The abscess may be located high up under the dome of the diaphragm It rarely fills the entire right subphrenic space, being usually limited by adhesions between the liver and the inferior space of the diaphragm

The intraperitoneal variety is far more common after appendicitis than the extraperitoneal *In the latter the* infection travels upward behind the ascending colon in the retroperitoneal tissues It can not extend very high upward, owing to the close attachment of the peritoneum to the inferior surface of the diaphragm In the intraperitoneal variety (Fig 1) infection either travels along the inner or outer side of the colon, or between its anterior aspect and the abdominal wall In the 106 cases which I have been able to collect, the abscess was intraperitoneal in 50 per cent., and extraperitoneal in 25 per cent In the remaining reports the location was not given or was doubtful

A subphrenic abscess may follow an attack of appendicitis in which there has been no suppuration in or

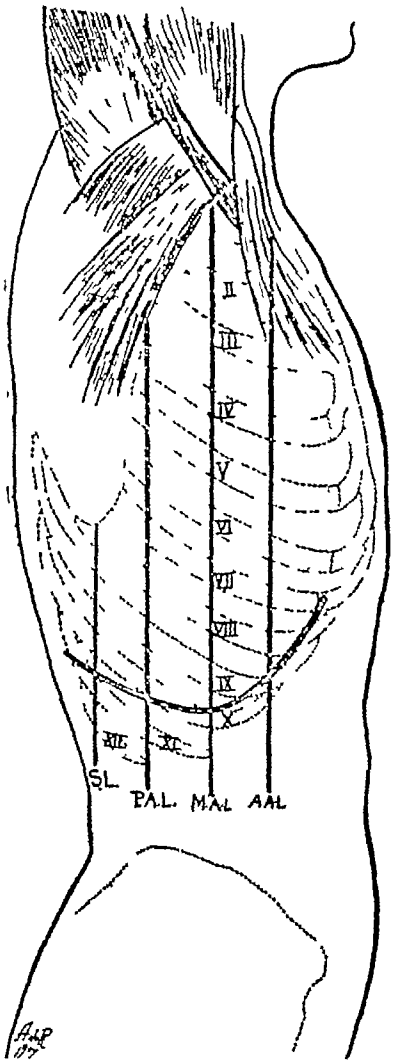


Fig 2—Side view of thorax and abdomen to show relation of pleural reflection to ribs and costal cartilages (see description in text) S L scapular line P A L posterior axillary line M. A. L midaxillary line A A L. anterior axillary line. The heavy black line represents the level of the reflection of the costal pleura on the diaphragm

around the appendix Such cases have been described by Weber, Krohne and Fink Subphrenic abscess after appendicitis is usually situated in the right side, but 6 left-sided cases have been reported (Schlesinger, Reizenstein, Korte, Darling, and one of my own) Subphrenic abscess seldom occurs as the result of a general suppurative peritonitis There are only seven such cases on record It is often impossible to trace any purulent tract from the appendix to the subphrenic region The position of the appendix bears a direct relation to the *formation of the subphrenic abscess In the majority* of cases the appendix was retrocecal (Fig 3) This is

(6) A study of the leucocyte count and Arneth's index in cases of gonococcal systemic infection before and after treatment will be of some guide to the results of treatment especially when no serological tests could be done

V THE FOLLOWING ARE THE EXPLANATIONS AS REGARDS THE RATIONALE OF THE NON-SPECIFIC THERAPEUTIC IMMUNIZATION

(1) The reaction fever of the injection is due to 'protein shock' and the fever thus produced must have not only brought about an increase of the antibody content of the blood but also a mechanical drying up of the urethral discharge and the effusion in the joints, the latter overcoming the intensity of the infection by killing most of the gonococci and the secondary organisms help the former in speedily effecting a cure

(2) Another explanation being that the minor acids of bacterial origin naturally produced in old vaccines by keeping cause the reaction fever as a result of mental shock and the antibody content of the serum could be so enormously increased during the reaction period as to effect the cure speedily and thoroughly

VI THE EFFICACY AND THE FURTHER POSSIBLE PRACTICAL APPLICATIONS OF THE NON-SPECIFIC METHOD OF VACCINE THERAPY

As regards the period to which the immunity thus established lasts and as to whether the cure is radical or temporary, I am led to believe that the immunity is fairly lasting and also thorough enough to eradicate the infection, while the sub-cutaneous injections of gonococcus vaccine (specific) and the iodide treatment proved a failure in many of the chronic cases of gon rheumatism

The non-specific therapeutic immunization by the intravenous injections of old (and naturally detoxicated) stock vaccine might be tried with some success in certain chronic specific infectious diseases

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The Referendum on the use of Alcohol in the Practice of Medicine

Journal of the American Medical Association, Vol 76, No 3, January 1921

QUESTIONAIRES were sent to 53 900 physicians, representing 37 per cent of the physicians of the United States, and 31,115 or 58 per cent, were returned

Of physicians indicating form of practice, 25,889, or 83 per cent were general practitioners 2,401 were engaged in the surgical specialities, and 2,825 in the non-surgical specialities

Do you regard whisky as a necessary therapeutic agent in the practice of medicine?

The total vote in all states on whether or not whisky was necessary in the treatment of disease was 30,843, 15 625, or 51 per cent, answered yes, and 15,218, or 49 per cent, answered no

Do you regard beer as a necessary therapeutic agent in the practice of medicine?

The total number of votes cast for beer was 30,597, and of these 22 663, or 74 per cent, were negative, and 7,934 or 26 per cent, were affirmative

Do you regard wine as a necessary therapeutic agent in the practice of medicine?

The vote on wine was no, 20,648, or 68 per cent, and yes, 9,803 or 32 per cent

Of those who considered whisky necessary in the practice of medicine, a large majority (about 75 per cent) used it in pneumonia, influenza and other acute infectious diseases About 35 per cent believed it necessary in the treatment of diseases incident to old age and in general debility About 10 per cent considered whisky of value in convalescence, diabetes heart failure and shock. Scattering replies included anemia, asthma, catarrh cancer phenol (carbolic acid) poisoning colds, dyspepsia, dysmenorrhea, neuritis, rheumatism, snake bite, heart disease, blood pressure disturbances toxemia of pregnancy, aremia, alcoholism and insomnia Particularly impressive was the sincerity of the belief of a large number of physicians in the therapeutic efficacy of whisky in a limited number of diseases, but equally impressive was the expressed belief of a limited number of physicians of its necessity in a large number of diseases Some physicians in our largest cities included large and varied lists of conditions

The conditions chiefly cited by those recommending beer were lactation, convalescence, debility, dyspepsia, anemia and old age

The conditions chiefly cited by those recommending wine were the same as for beer, emphasis was also laid on its use as a substitute for whisky in infectious diseases and in other conditions

The Ultimate Aim of Medical Research *

By J W CORNWALL,

LIEUT-COL, I M S

THE nature and matter of this paper may be held to be not inconsistent with the rules which indicate the kind of paper admissible and not admissible to this section when it is understood that it deals with fundamental conceptions which should govern every undertaking connected with medical research

No new ground is broken in suggesting problems which call for investigation nor in bringing to your notice work accomplished I wish merely to point out how I think we ought to attune our minds before we spend time in laborious researches, so that we may convince ourselves that we are proceeding on right lines and that our time or labour is not being to a great extent thrown away, as it unquestionably is if we attack a problem along a difficult approach when thought and selection will enable the end to be reached in less time, with less labour and with greater certainty

Think how all the possible approaches to Mount Everest have recently been carefully surveyed, inspected and tested, so that the one may be selected which will lead most surely, with the least labour and in least time to the summit Do we approach the problem of the prevention of disease in the same way? Is it customary for the problem to be surveyed, inspected and tested by experts in various branches of science, the most practicable route to its solution selected and the final attack made by other selected and trained experts? Does it not more generally happen that the attacks are made spasmodically by individuals or small bands of explorers experts no doubt, but grievously handicapped by inadequate preliminary survey and insufficient means to their end? Which method is likely to be the quicker, the cheaper and the more successful?

But this is a digression I have been speaking of the way to attack an isolated problem, whereas I mean to speak of the way to attack the one and only problem which includes all problems as the greater includes the less I spoke before deliberately of "the problem of the prevention of disease" not "the problems presented by numerous diseases and their treatment' The distinction is fundamental

Our main efforts at the present time are directed towards finding out as much as possible about the progress of diseased conditions of the body, how to diagnose and differentiate them with scrupulous

* Read at the Medical Research Section of the Indian Science Congress held in Madras in Feb 1922

tion after operation, and some method of drainage should be provided for the retrocecal region, making a counter-opening in the loin There was no abscess formation in the primary appendiceal lesion The course was a very rapid one

CASE 3.—Right sided subphrenic abscess, complicated by encapsulated diaphragmatic empyema Recovery

S F, aged 30, male, was admitted to my service in Cook County Hospital, Sept 29, 1905, with a diagnosis of empyema The only history obtainable was that he had ben operated on, one year previously, for appendicitis A large scar in the right iliac region and the presence of a hernia rendered it possible to infer that an appendiceal abscess had been drained Two weeks before admission to my service he was seized with a sharp epigastric pain, temperature on admission, 103 F There was an area of dulness extending from the eighth rib downward on the right side of the chest in the scapular line, and from the fourth rib in the mammary line Greatly diminished respiratory and voice sounds were heard over this area

Exploratory puncture showed thick, fetid pus The seventh rib was resected in the posterior axillary line, no pus found in the pleural cavity The right lower lobe was adherent to the diaphragm, and on being separated a considerable quantity of fetid pus escaped What was supposed to be an encapsulated diaphragmatic empyema was drained, the patient

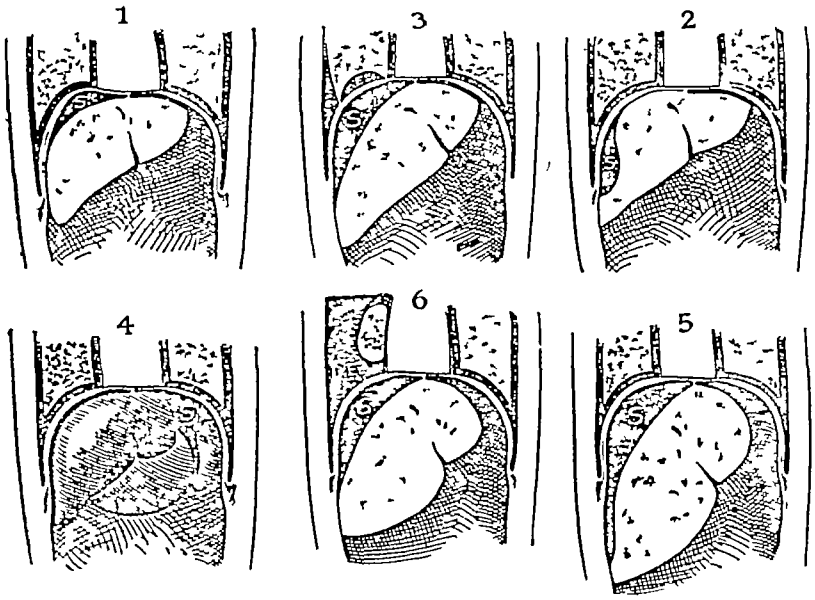


Fig 5.—Various forms of subphrenic abscesses complicating appendicitis. S in all of the figures represents the abscess E in 3 represents empyema D E in 6 diffuse empyema 1 Abscess beneath dome of diaphragm 2 Abscess low down in subphrenic space 3 Combination of encapsulated diaphragmatic empyema and subphrenic abscess 4 Left sided subphrenic abscess 5 Large abscess occupying entire right subphrenic space 6 Combination of right subphrenic abscess and non-encapsulated empyema

showing considerable improvement for a few days, but the septic symptoms recurred, and on October 14, two weeks after admission, the thoracic wound was inspected and a bulging upward of the diaphragm noted Exploratory puncture showed the presence of a subphrenic abscess, which was drained at its lowest point by resecting the tenth rib in the anterior axillary line Uneventful recovery

CASE 4.—Retrocecal appendiceal abscess, subphrenic abscess under right dome of diaphragm, transpleural drainage, post operative empyema, death from septicemia

H A, aged 18 entered my service at the Michael Reese Hospital on Feb 11 1906 He had been treated for the previous two weeks for appendicitis The condition had improved after the first week, but recurrence of fever led his physician to send him to the hospital On admission, there was rigidity in the right hypochondriac and lumbar regions, and some dulness over the same area At operation, the ascending colon was found adherent to the abdominal wall along its entire length, a large abscess containing very fetid pus was discovered just in front of the right kidney, appendix was retrocecal but intraperitoneal, it was perforated at its middle, after being separated from the posterior aspect of the cecum it was removed Temperature fell gradually to normal, but rose again five days after opening the appendiceal abscess The wound was reopened, but no retention found A counter opening was made in the ileocostal space, without any improvement Examination of the thorax showed an area of dulness at the convex upper border from the seventh rib downwards, between the anterior axillary and scapular lines

Exploratory puncture of this area showed the presence of fetid pus The seventh rib was resected in the posterior axillary line, the needle having been left in place after the exploratory puncture The needle was found to have entered an abscess containing about six ounces of pus, lying between the upper surface of the liver and the right dome of the diaphragm It was impossible to suture the diaphragm to the chest wall The pleural cavity was walled off with gauze, and a drain inserted into the subphrenic abscess across the costophrenic sinus A very septic empyema developed, and the patient died six days later

This case illustrates the difficulty of draining those abscesses which are located high up under the dome of the diaphragm Several of Korte's patients died of a similar postoperative empyema

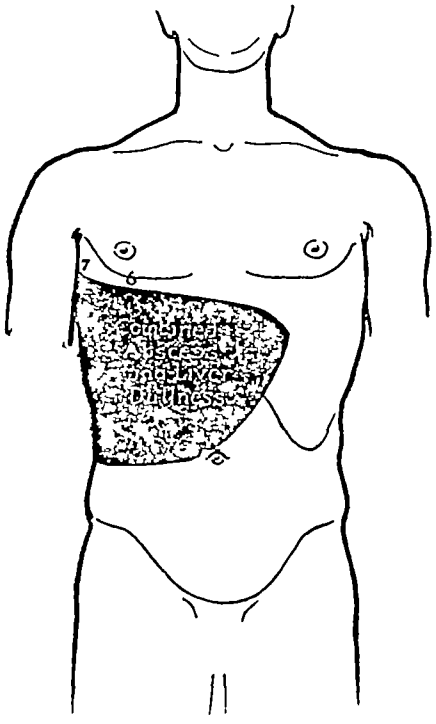


Fig 6.—Area of combined liver and subphrenic abscess dulness in a case of right sided abscess

CASE 5.—Development of subphrenic abscess during non operative treatment of appendicitis Drainage of abscess while patient extremely septic. Death two weeks after operation

C F, aged 38, was seen one month after onset of appendicitis, which had been treated conservatively without operation On admission the patient was very septic and emaciated with septic nephritis Rigidity and tenderness over right hypochondriac and epigastric regions Both right and left lobes of the liver were displaced downward, so that the lower border of the right lobe was below the level of the umbilicus There was dulness from the sixth rib downward in the mammary line, from the seventh in the midaxillary line Some edema over seventh and eighth ribs in the midaxillary line Absence of respiratory sounds over area of dulness in the axilla Exploratory puncture through the right seventh interspace in the midaxillary line showed chocolate colored pus

adopted for preventing them, we know all too little yet for our purposes I only suggest that in prosecuting them we should always bear in the fore-front of our minds that our aim is to know how to prevent disease from arising, by discovering how to maintain health, and not how to deal with diseases which our ignorance and negligence have allowed to arise We must remember that the higher aim will lead to the extinction of disease, the lower can never do so, for the reason that new disease, both parasitic and functional, are continually arising as the conditions of life change.

When I was a student one of my teachers suggested that the greatest work a doctor could do was to recognise and describe a new disease and then elaborate a cure for it. It strikes me now as a very poor ideal Thirty years ago many thought that new diseases could not arise To-day, by the description of a new disease a man hardly acquires fame A few years ago enthusiasts prophesied that vaccines and serums would eliminate parasitic diseases We are far from convinced of that now Every year dozens of new chemical remedies of which practically nothing is known, are thrown on the market to entrap the unwary physician and the gullible public Think of all the money and labour so uselessly expended, just to make money for the manufacturers and chemists Is it not a marvel that throughout the ages certain knowledge has not yet been collected and disseminated of the best way for a pregnant woman to conduct herself, so that she should injure neither herself nor the child, of the best way to conduct a labour, so that all accidents may be avoided, of the best way to feed a baby so that it may keep in perfect health? By this time all this should have been reduced to a nutshell, and might have been if collaboration and continuity of effort had existed Diseases of all kinds still have the master hand, we sometimes alleviate, seldom cure Remedies are more elegant and less drastic than of old, but little more efficacious The slogan of to-day is treat the patient not the disease,' but the result is much the same Sanitary science has at enormous expense succeeded in keeping a portion of mankind from frequent contact with the germs of certain diseases and has doubtless saved many lives, but it has not spread its net widely enough The development of surgery is an artistic triumph for the individual, and surgery has probably had a larger share than is generally suspected in reducing the death-rate during the last thirty years, but it is outside the main problem altogether Please do not gather the idea that I am belittling the medical profession or what it has done. The trouble is that it has done so much that we cannot see the wood for the trees It has accomplished and is still performing great work and the world at present needs the skill and knowledge of all its members I am merely endeavouring to persuade you, I will not say prove to you that however far we have gone I do not think we shall ever reach the end, which is the systematic prevention of disease, if we follow the route we are now on

We must try back and see if we cannot hit on an easier and quicker one, but we shall only reach the peak coevally with good government, the prevention of disease cannot be accomplished by the medical profession unaided

Now I must try to indicate more clearly what I mean by perfect health and how we should proceed to attain it Herbert Spencer, whom Indians are fond of quoting defined "perfect life" as "perfect correspondence," meaning that the life which can respond adequately to all stimuli can protect itself completely against all noxious influences, and can benefit to the utmost degree from all favourable influences Perfect health is inseparable from perfect life and its connotation is not quite so wide

For a child to be born perfectly healthy that is with no inherited functional weaknesses, it is necessary that its parents also should be perfectly healthy, that the gestation period should have been passed through with no error on the part of the mother, and that labour should have been accomplished easily and naturally For the child to grow up perfectly healthy its food should be correct both in quantity and quality and it must be perfectly trained and taught both physically and mentally For the adult to remain perfectly healthy the laws on which health is dependent must be observed and the conditions under which he lives must be so ordered by the state that he is not subjected to danger from food, drink or environment A break in the chain anywhere may lead to ill-health for which the individual may or may not be primarily responsible

Is it not our duty as guardians of the public health who are supposed to know more about the origin and treatment of disease than the laity who have not made a life study of these matters, to give to the world our considered opinions and beliefs in such a form that all can understand them? Ought we not to try to make our statesmen and the framers of our laws understand that the important doctrine that should underlie all statecraft and all legislation is that man cannot be happy till he is healthy, and that it is within the bounds of possibility for him to be healthy if he wills it and if the state works for it? At present, no state works for anything at all except to still popular clamour from time to time and to aid individuals to obtain notoriety Though it is often said that the happiness of the majority is the ultimate aim of all statecraft, no statesman seems to have any clear idea how to proceed towards it It is for us to insist that happiness is only attainable through health and to point out that, though most medical men are now occupied in the alleviation of declared diseases, we recognise that the diseases should never have been allowed to declare themselves, and that the true business of medical men is to keep men healthy

Surely it is a far more beneficial if not actually easier, work to teach mankind how venereal diseases and all their far-reaching consequences may be avoided than to spend time in elaborating methods of alleviation, which we know to be so expensive and difficult to put into practice that not 1 per cent of the afflicted will ever stand a chance of really benefitting by them and so complex that few medical men can ever learn to apply them efficiently If you find it difficult to believe this you have only to read the report in the *B M J* of Sept 24th of the Proceedings of the Section of Venereal Diseases of the British Medical Association, and I am sure that you will agree.

Surely it would be better work to find out exactly what dietaries are essential for the maintenance of perfect health and how they should be varied to suit individuals and circumstances, and to regulate matters so that all should obtain their requirements, than to allow man in his ignorance to fill himself with foodstuffs of unknown qualities and excessive or deficient in quantity, and then to try to alleviate the complex disorders which follow, without possessing exact knowledge of the circumstances which led to their development

It is certain that half the diseases man suffers from arise out of his ignorance, carelessness and self-indulgence Many years ago Samuel Butler, in his imaginary land of Erewhon, made illness a crime, and the evil-doer was subject to a penalty That is all right when the state has so ordered affairs that men run no risks but those which it is within their power individually to avoid but we have first to teach the state its duty and then to draw up the code for the individual

You may have been feeling that I am merely rehearsing the dreams of Utopia, but I think that some of us are apt to forget, and it is possibly that some of us do not clearly realize the ultimate aim of medical research, which is not to find ways and means for dealing with existing conditions, but to find ways and means to prevent those conditions from arising

pmies a subphrenic abscess, it is impossible to differentiate by exploratory puncture unless one first obtains ordinary non-fetid pus, and later, on deeper introduction of the needle, a fetid pus One can distinguish the pus obtained from an abscess of the liver by the fact that it has no odor and is chocolate-colored

(*b*) *Subacute Form* —In this form the symptoms appear from eight to twenty-one days after the onset of an attack of appendicitis, or after the removal of the diseased appendix A week or more after the attack or operation, the temperature rises again, accompanied by gradually increasing symptoms of septic intoxication The fever is usually of the remittent type, and is accompanied by a corresponding rise in the pulse rate The patient begins to lose in strength, and becomes greatly emaciated

The local signs in this form do not differ from those described under the acute mode of onset In a few cases, this recurrence of fever and of septic symptoms is accompanied by pain over the corresponding side of the chest, cough and dyspnea, but these latter symptoms

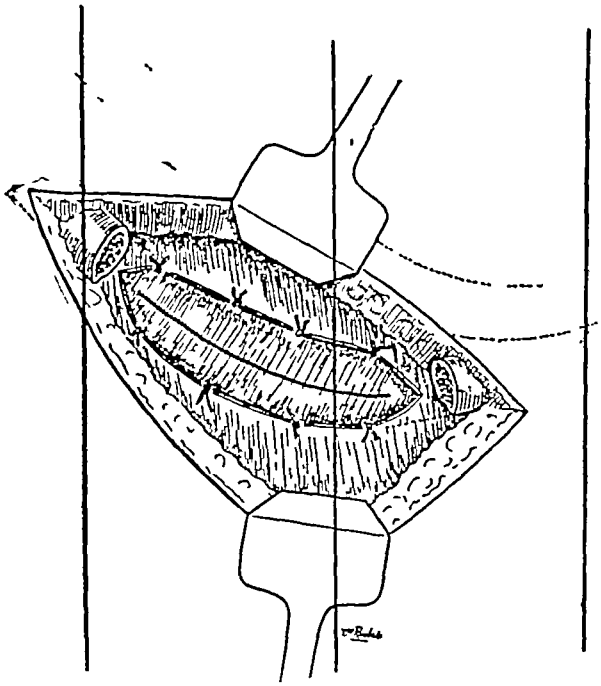


Fig 9 —Method of operation in low transpleural drainage of subphrenic abscesses. After subperiosteal resection of that portion of the rib which lies over the abscess the parietal and diaphragmatic layers of the pleura are sutured together

are not at all constant In the absence of any retention of pus in or around the seat of operation, this reappearance of fever, etc, should always lead one to search for the physical signs of a subphrenic abscess

Rupture into the lung has probably taken place if large quantites of pus have been expectorated suddenly in these cases

(*c*) *Chronic Form* —Case 3 of my own series best illustrates this mode of onset. For weeks to months after an attack of or operation for appendicitis there are indefinite symptoms In some cases there is an occasional rise of temperature, accompanied by sweats and slight loss of weight and strength In others, there are no symptoms until the patient is suffering from the symptoms of acute sepsis, due to an obscure deep-seated focus In these cases the diagnosis can only be made from the local physical signs of dulness, etc, in the lower part of the chest aided by exploratory puncture, taken in conjunction with the history of an attack of appendicitis, or of an operation for removal of a diseased appendix, or drainage of an appendiceal abscess

DIAGNOSIS

If a patient who gives the history of some inflammatory condition in the right lower quadrant of the abdomen, or who has been operated on for appendicitis, has a continued rise of temperature, accompanied by other symptoms of septic intoxication, one should always make a diligent search for a subphrenic abscess The downward displacement of the liver, the presence of an area of dulness with a convex upper border, continuous with the dulness of the liver (Fig 6), and the finding of fetid pus on exploratory puncture are very characteristic If there is localized bulging or edema, the diagnosis is rendered quite easy The principal condition to be differentiated is empyema This is, at times, practically impossible The history of a preceding pneumonia, followed by continued fever, and the local physical signs is often of great aid in making a diagnosis of empyema The upper level of the area of dulness is more apt to be horizontal in empyema instead of convex, as in a subphrenic abscess

In many cases a differentiation is impossible, except from the history and the character of the pus If the subphrenic abscess contains gas, and the three characteristic zones described under symptoms are present, the diagnosis is not difficult If an empyema and subphrenic abscess coexist, differentiation is impossible This is especially true of an encapsulated empyema, as in Case 3 This case also shows that persistence of fever after drainage of an empyema should lead to the suspicion of a subphrenic abscess The *x*-ray is not sufficiently reliable to be useful as a means of diagnosis

PROGNOSIS

In general, the chances for a spontaneous evacuation of the abscess through the lung or externally are so slight that the prognosis is bad in non-operated cases Even in those cases of subphrenic abscess in which an operation was done, the mortality has been much greater than it should be This is due to the fact that the diagnosis has not been made in many cases until the patient is so septic that operation is of little avail

Elsberg, in his article published in 1901, found that in 73 cases of subphrenic abscess after appendicitis, 11 of 51 patients operated on died, a mortality of 22 per cent Of 22 patients not operated on, 18, or 82 per cent, died The 107 cases which I have been able to collect since the publication of Elsberg's article include his 73 cases In these 107 cases (all following appendicitis) the results were as follows

	Patients	Per cent
Died with operation	23	21 5
Died without operation	19	17 7
Totals	42	39 2
	Patients	Per cent
Cured with operation	61	57
Cured without operation	4	3 8
Totals	65	60 8

These latter figures show that with the additional 34 cases which I have been able to collect (including my 5) since Elsberg's article, the mortality in 84 cases in which an operation was done was 25 per cent It is impossible to state what the mortality is in non-operated

heart This is not attained by continuous massage When the feeblest beats have begun it is better to cease massage for some seconds so as to allow them to develop, and to apply short periods of massage intermittently, when it is usually found that, perhaps by the third of fourth series, the heart suddenly regains a normal rhythm and the blood-pressure rises rapidly

Ecker uses nitrous-oxide and oxygen passed over a mixture of anæsthol and paraldehyde, half and half Anæsthol consists of ethyl chloride (17 per cent) chloroform (35 per cent) and ether (47 per cent)

The method was employed in 12,000 dental operations, an average of ten drops of anæsthol per patient being used It is recommended whenever a 'short but safe anæsthesia is required'—*Practitioner, March* 1922

THE following three pamphlets have been prepared by Dr Muir, research worker in leprosy at the School of Tropical Medicine, Calcutta They will be found useful by those who wish to treat leprosy according to the latest methods, as well as by those who wish to begin an educative propaganda with regard to the disease Such propaganda has already been begun in various centres such as Bankura and Hyderabad (Nizam's Dominions) It cannot be too strongly emphasised that the best way to rid the country of leprosy is by such propaganda

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The prevention of Leprosy

Many contradictory reports are abroad with regard to the infectiveness and contagiousness of leprosy Some are thrown into panic by the mere mention of a leper being in the vicinity, while others mix with the most infective lepers with the utmost callousness and carelessness

Unfortunately we are not in a position to make a clear and decisive statement as to the exact method in which the causitive organisms are conveyed from one person to another

There are two reasons why this doubt should exist —

(1) As far as we know mankind is the only member of the animal kingdom which has ever become infected with human leprosy There is a somewhat similar disease found in rats, but it has not yet been found possible to transmit human leprosy from human beings to rats This being so it has not been possible to transmit the disease directly by experiment and thereby prove the means of transmission

(2) The length of the incubation period, which though it may be short has at times been known to extend to 40 years, forms a considerable difficulty in the obtaining of positive proof as to the exact time at which the disease has been acquired Seeing the time at which the disease has been acquired cannot be found out accurately it is difficult to find out the channel through which the disease-producing organisms have been conveyed

Although we cannot clearly define the method of infection, there are certain factors which undoubtedly take a most important place in determining the transmission of the disease These are as follows —

1 *The Infectivity of the Disease Transmitter*—The larger the number of lepra bacilli in the body the more there are to propagate the disease and the nearer they are to the surface of the body the more likely are they to be carried to other people

(*a*) In *acute leprosy* bacilli abound in the rash which covers the body and it is quite easy to recover them from the scales that are constantly being shed and from the serum that oozes from the abraded surface of the epithelium Such cases are therefore extremely dangerous, and are the more so because the acute condition is frequently not diagnosed at once It may be recognised by the constant fever, the red, irregular rash spreading all over the body, the fact that the colour of the rash does not disappear on pressure and above all by the microscopic examination of the skin revealing abundant lepra bacilli

(*b*) In *nodular leprosy* there are abundant bacilli in the skin not far from the surface They are frequently found in the sebaceous matter exuding through the skin When the epithelium breaks down and ulcers are formed large numbers of bacilli are shed from the surface of the ulcer Indeed it is difficult to estimate the numbers of lepra bacilli that must be shed from the surface of one such ulcer in the course of a single day Such ulcers must be distinguished from the trophic ulcers met with in nerve leprosy which may contain no bacilli at all as they are not caused by the breaking down of skin surcharged with lepra bacilli as is the case in nodular leprosy, but by the lack of trophic nourishment of the skin the sensory nerves of which are diseased, or by some injury to the skin due to the loss of the protection usually rendered by sensation and the sense of heat and cold

(*c*) In lepers who show no outward signs of the disease and who may be quite unaware that they are suffering from it the chief or only seat of the disease may be in the mucous membrane lining the nose from which bacilli are discharged in thousands whenever the patient sneezes or blows his nose Such carriers of the disease are far commoner than is usually thought and inadvertence of their disease makes them the more dangerous to the public

2 *The Closeness of the Contact*—Although leprosy is undoubtedly infective it is not so to such a high degree as more acute diseases which tend to limit themselves and produce immunity within a short time Doubtless the infectivity is or may be very similar in degree to tuberculosis, but the outward manifestations of leprosy lead to shunning of the leper especially in his more infective stages, and hence the transmission of the infection has not so much chance of taking place But as in tuberculosis the closeness of contact has much to do with the carrying of infection, and the disease is most commonly communicated where people live under insanitary conditions, crowding together into small dwellings, using the same eating and cooking vessels, and even promiscuously using the same clothes

Children are much more easily infected by their leprous parents and guardians than adults are infected by other adults This may be partly due to the thinner cutaneous surfaces of children being more easily invaded by the bacilli, but it is probably just as much due to the close contact of parents and children

3 *The Length of Contact*—The probability is that infection does not as a rule take place at one time, but is due to exposure to infection over a more or less lengthy period

4 *Health of the Person infected*—This is very important as on it to a large extent depends the resisting power of these who are exposed to infection Where the food is insufficient or its proportional composition unsuitable, where insufficient exercise is taken or the strength of the body is reduced by too much labour, where other chronic or acute diseases have impared the resistnig power of the body, the danger of infection is much increased

It may also be that the germs of leprosy which have for long lain latent in the body, take such opportunities to become active and produce the first noticeable signs of active disease

5 *Immunity*—This may exist naturally, especially in those who live in an endemic area, or it may in all probability be acquired by those who have long been in contact with leprosy, but in whom numerous small

THE X-RAY AND HIGH FREQUENCY TREATMENT OF EXOPHTHALMIC GOITER

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In December, 1903, I reported to the Academy of Medicine a case of exophthalmic goiter which had been treated and apparently cured by roentgenization. At that time only three months had elapsed since the suspension of treatment. This patient, however, has continued to remain in perfect health up to the present time, a period of four years.

At the present time I have five cases to report that were submitted to the Roentgen ray and high frequency treatment. In every case where regular and continued treatment was given a positive cure was effected. The fourth case was compelled to abandon treatment, but has continued to improve. In the fifth case favorable results were seen in the marked lowering of the pulse rate from 90 to 80, after the first treatment, and an improvement in the patient's ability to sleep. The queer nervous sensations which she experienced immediately following *x*-ray exposures she alleged to be the reason for discontinuing treatment. Of this, however, we entertain some doubts.

In the high frequency current we have a nerve sedative of undoubted value, an electrical energy that tends to restore the normal equilibrium of disturbed metabolism, and when delivered locally, especially from a metallic point, it is a powerful irritant, but under perfect control. All these properties, combined with roentgenization of the struma, were utilized in the treatment of these cases.

The sedative property of the high frequency current, its power to induce relaxation in conditions of nervous excitability has long been recognized. This action of the current is best manifested in asthma, and on repeated occasions we have seen severe paroxysms that subsided quickly and completely after a few minutes' application. The influence of the high frequency current on metabolism is shown, first, by the loss of weight which patients invariably undergo, especially after the first few treatments. In not one case among more than 100 cases submitted to this current have I failed to observe some early loss of weight. After a varying period, however, the appetite is stimulated, more food is consumed, and then an increase in weight is most certain to follow.

Again, this action is demonstrated by an increase in the volume of urine and its solids, the former being observed frequently and mentioned by the patients themselves.

Locally, the high frequency current undoubtedly stimulates the cellular activity of the thyroid gland, acting most probably through an increase of its blood supply. An erythema, persisting for several hours, is readily induced by effluviations over the thyroid gland.

The action of the *x*-rays in exophthalmic goiter presents some interesting phases. At all times we must recognize that the Roentgen ray possesses three different therapeutic properties, viz., stimulating, irritating and tissue-destroying. In exophthalmic goiter we only employ its stimulating action. In these cases we have to consider the influence of the rays on the goiter, on the exophthalmus, on the tachycardia, and on the general nervous system.

STRUMA.

All *x*-ray therapists recognize its peculiar selective influence on glandular tissues. When the hypertrophied thyroid gland of Graves' disease is brought under the influence of the ray, the following phenomena are invariably observed. At first there is a gradual contraction of the organ until a reaction occurs, at which time the gland becomes harder, more elastic, more or less sensitive and swollen. The enlargement is at times most marked, and it is apt to exceed the dimensions of the gland prior to treatment. To inform the patient beforehand of this fact will not only prevent a possible alarm on his part, but will also strengthen his confidence in the treatment. Immediately following this reaction a more rapid diminution in size occurs, and from then on there are numerous minor reactions during the course of the treatment, each one followed in turn by contraction. After the complete subsidence of the organ, the remnant is harder to touch, appears to be rich in connective tissue, and resembles in character the connective tissue remains obtained after successful roentgenization of tuberculous glands. In Case 5 a reaction occurred during the first exposure to the rays and immediately afterward a marked contraction was evident, the gland measuring one inch less in circumference. We have noticed in these cases that the distressing and sometimes painful sensations about the neck were entirely relieved after each exposure.

Regarding the influence of the rays on the exophthalmus, although having no bearing on their curative influence, interesting changes occurred in two of the cases. In Case 1 for ten years prior to the treatment the patient complained of weak eyes and was dependent on glasses for near vision. After her recovery she gave up the use of glasses altogether. In Case 3 the patient had used glasses for eleven years before treatment, and after her recovery she discarded them as her vision became very acute.

TACHYCARDIA.

Observations on the influence of the rays on the heart we have found to be of great interest, especially so in exophthalmic goiter, for here the sedative influence of the rays is most striking. We have frequently noted a slowing of the pulse rate of from 10 to 50 beats per minute after exposures of from 5 to 10 minutes. During the exposure the disturbance of rhythm is evidenced by the intermittent character of the pulse. About one minute after the exposure, intermittence gradually becomes less frequent, and the pulse is retarded gradually, up to 5 or 10 minutes later, when a maximum retardation is effected. On frequent occasions, after a maximum diminution of the pulse rate has been obtained, further application of the rays, no matter how brief, will cause the pulse to intermit again and become slightly accelerated. These same changes have been seen in cases other than those of exophthalmic goiter, notably so in alcoholic, neurotic and chronic weak hearts.

The question arises as to the manner in which these changes are effected. The fact that similar results can be obtained in cases where there is no involvement of the thyroid gland would make it appear that the retarding of the heart's action was not due to any direct influence of the rays on that gland. It does not appear, however from numerous observations we have made, that these effects are the result of any direct action of the rays on the heart itself, for the same results were obtained when the heart was protected by lead shields while exposures were being made to other parts of the body.

The following are a few illustrations. 1. Face exposed, heart senile and irritable, time of exposure four

where undue reactions can be guarded against, it is well to increase the dosage as fast as possible so as to have the maximum of improvement before tolerance to the drug has reached too great a degree

When 2 c.c has been given intramuscularly twice a week without producing any reaction we can safely proceed to give intravenous injections The first of these should not exceed 0 5 c.c Intravenous injections should be given very slowly, at least one minute being taken to inject each c.c. of the drug The first few intravenous injections may produce a slight amount of coughing especially if there is considerable disease of the wind passages There may also be a rise of temperature of a degree or two which subsides within a few hours This rise must not be considered a reaction as it is also produced in healthy subjects As long as the coughing gives any distress to the patient or the febrile rise is marked the dose should not be increased Apart from these the dosage may be increased at the same rate as the intramuscular to 2 or 2 5 c.c provided a reaction, indicated by a rise of temperature lasting over 48 hours, does not occur

Our usual practice is to give one intravenous injection and one intramuscular injection in the week raising the intravenous dose to 2 or 2 5 c.c and the intramuscular to 3 or 4 c.c When the patient has stood such injections for one or two weeks without sign of reaction the number of intravenous injections in the week may be increased to 4 or 5 Thus the patient will receive 15 or 16 c.c. in the week The improvement of the condition of the patient is usually very rapid when such large doses can be reached without much delay, but when reaction in a modified degree intervenes and delays the raising of the dosage, the improvement is none the less marked Where there is a very severe reaction the improvement will in most cases be correspondingly great, but it is also possible to overstep the mark and cause an increase in the disease

One *Danger* which must be always kept in mind is where tuberculosis co-exists with leprosy The chaulmoogra and hydnocarpus preparations cause reactions in tuberculosis also, but where this disease is at all advanced it is much more difficult to limit the reaction and the results may be disastrous It is therefore always desirable where there is any possibility of tuberculosis existing that the initial doses be small and that the temperature record be very carefully watched

Patients under treatment for leprosy should always be warned that the first change that they may notice in their condition may apparently be a change for the worse In nodular cases the reaction may be accompanied by the swelling up of old nodular tissue or the appearance of fresh nodules , but these soon subside and leave the condition considerably better than before In nerve leprosy the anæsthesia may at first become more marked and the area affected may become larger , but this again is soon followed by improvement

It will be seen from the above that to obtain the best results from treatment individual attention to each case is absolutely essential *These drugs act by destroying the causal organism of the disease , they will not restore deformities It is therefore important in selecting cases to be treated to choose those who have active disease in the body Little benefit can be expected by treating those out of whom the active disease has practically disappeared and whose deformed bodies alone remain to testify to its former ravages*

Short Description of the Esters of Chaulmoogra and Hydnocarpus Oils—Both the ethyl esters (prepared from ethyl alcohol) and the methyl esters (prepared from methyl alcohol) may be used both intramuscularly and intravenously We have not noticed any advantage in the one over the other except that the ethyl ester is cheaper to produce They are clear fluids which do not form a solution with water and which when shaken up with blood serum form an emulsion which rapidly separates out again, the ester rising to the surface

They are, however sufficiently fluid to pass through the capillaries of the lungs, though in some patients there would appear to be some little difficulty connected with this passage especially in the first few intravenous injections

The ethyl esters of other oils, such as codliver oil neem oil olive and linseed oils and the oil of the soya bean, are also beneficial in leprosy but our own experience as well as that of most of those who have had much experience of the treatment of leprosy, puts the preparations of chaulmoogra and hydnocarpus oils in a position superior to those of other oils Among these preparations again the esters undoubtedly take the first place

Chaulmoogra and hydnocarpus oils are derived from the ripe seeds of two trees belonging to the same natural order, *Taraktogenos kurzii* and *Hydnocarpus wightiana* respectively The oils of several of the species of this order have these distinguishing features that they contain a series of fatty acids with a molecule containing a closed carbon ring and in the polarimeter show themselves to be dextrarotatary to light

The therapeutic efficiency of these oils in leprosy seems to be due to these fatty acids Chaulmoogric and hydnocarpic acids both belonging to this series, form a large proportion of these fatty acids, but it is probable that other fatty acids belonging to this series are also contained in these oils although they have not yet been separated out in their pure chemical form We therefore use the ethyl esters of the whole fatty acids and believe that they are almost, if not entirely, as efficient as any combinations of fractions

Preparation of Esters for injection—It is well to prepare the quantity required for each day by boiling it for half-an-hour on a water bath Iodine up to 1 per cent, may be added when the drug is injected intramuscularly, but if more than 0.2 per cent. is added to the intravenous injection there is apt to be considerable coughing When iodine is first added the mixture takes on a brown colour This however, soon begins to disappear as the iodine is absorbed by and chemically combined with the easter

For intramuscular injections 5 per cent creosote will soon render the solution aseptic besides having some therapeutic value of its own With creosote, where the solution has been incubated for 24 hours, further sterilisation is unnecessary

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Instructions for those under treatment for Leprosy

IN the treatment of leprosy the intelligent co-operation of the patient is most essential In such a stubborn disease every means at our disposal must be called into use and this can be done only with the intelligent help of the patient

No drug has as yet been discovered which can be relied upon of itself alone to cure leprosy The injection of various drugs and vaccines has caused the disappearance of all signs of leprosy in a certain number of early cases, but the injection treatment can be very much helped forward by the patient observing a few simple rules These are as follows —

Diet—Food must be fresh Tinned and salted or otherwise preserved foods should be avoided Overcooked recooked highly spiced and stale foods are all harmful Meat and fish should be fresh and only taken in small quantities No food which is known to be difficult of digestion should be taken

Fresh vegetables should be eaten freely, especially those that can be eaten raw such as lettuce and tomatoes Vegetables should not be over-cooked Plenty of fruit should be eaten

Fresh dairy produce, milk, butter, eggs (raw or only slightly cooked) are very valuable

Too highly milled rice and grain should be avoided as the part removed by over-milling has valuable

end of treatment. The most interesting feature was the action of the rays on the heart During the exposure the pulse became irregular, intermitting from two to three beats per minute, then suddenly, about one minute after the exposure, there was a marked change in rhythm, the pulse rate being lowered from 10 to 20 beats per minute Before the first treatment the pulse was 115, one minute after, 110, five minutes after, 100, and ten minutes after, 90 Before second treatment, pulse 110, one minute after, 105, five minutes after, 100, ten minutes after, 90 Pulse rate about the same until the sixth treatment Before the sixth treatment, pulse rate, 95, five minutes after, 85 After this there was a gradual diminution in the pulse rate up to the last treatment Before last treatment the pulse was 86, five minutes after, 80

After the fourth treatment there was a marked increase in the size of the goiter The gland was sensitive to touch, harder and more elastic. A few days following this reaction the gland began to undergo a gradual shrinking, but at least three other reactions occurred, though much milder in character before the suspension of treatment, July 12, when the gland was no longer perceptible, but by palpation a slight hypertrophy was evident From the first treatment patient began to lose in weight, the maximum loss was six pounds reached at the beginning of the sixth treatment From that time on the weight remained about the same fluctuating from a pound or more, coincidently with the periods of reactions in the goiter, until the ninth treatment, when she began to gain from 1½ to 2 pounds between treatments At the end of the course of treatment she had regained her former weight From the first there was a gradual loss of flabby adipose tissue, but a corresponding gain in firmness and strength in the muscular system

A few hours following the first treatment there was a nervous reaction, characterized by increase in restlessness and mental excitability, accompanied by giddiness and peculiar sensations in the head This reaction continued for two hours or more, after which there was a marked nervous relaxation and a strong tendency to sleep Much milder reactions followed subsequent treatment gradually diminishing in intensity until they were scarcely noticeable From the very beginning there was an improvement in the appetite, mental condition, and her ability to sleep

On July 13 the patient started for a two months' camping out in the woods of Maine I saw her on her return, September 15 She appeared to be in the best of health, had gained 15 pounds had a good appetite, was sleeping better than she had for years pulse was normal, and she was in a happy frame of mind On examination no trace of the exophthalmic goiter, excepting a moderate widening of the palpebral fissures, was found Patient has been seen yearly up to the present time, and has had no recurrence

CASE 2.—Mrs K., aged 36 seen April 2, 1907 For a year or more she had been very nervous and irritable for the past six months her restlessness and mental irritability had become so marked that she was thoroughly alarmed The most peculiar feature of her mental condition was that she was suspicious of everybody, including acquaintances and every member of her family She frequently became very much excited about the most trivial things, while all the time conscious of the unreasonableness of her conduct. She lost considerable flesh and strength and was no longer able to attend to her usual household duties no matter how small, without undergoing extreme fatigue She dated her trouble from the time when she was called on to take charge of a neighbor having an epileptic paroxysm

The facies was anxious The eyes were conspicuously protuberant v Graefe and Stellwag signs were present, as was also a systolic murmur over the base, impulse of heart exaggerated Pulse 110 regular some increase in tension Throbbing of the carotids and the abdominal aorta well marked Skin, cold and clammy Fine tremor of tongue and hand Exaggerated reflexes Thyroid gland, moderately and uniformly enlarged pulsating

Treatment.—Same as in Case 1 The following observations were made during the treatment

Eyes gradually but slowly became less protuberant. Thyroid, after the third treatment was markedly swollen, hard and elastic, after which there was a gradual diminution in size up to the time of the last treatment. Pulse, before first x ray exposure was 110, one minute later, 100, ten minutes later, 90 April 6, pulse before exposure 96, after 90 May 4, mild reaction, pulse before exposure, 80, after, 78 Weight, 122 before first treatment. She gradually lost weight up to the time of reaction, when her weight was 121½ pounds, after which she lost three pounds, then followed a gradual increase in weight until the last treatment, May 24, when she recovered her former weight She steadily gained in muscular tone and strength from the first treatment

About one hour after the first treatment she experienced a peculiar nervous reaction which lasted about two hours It was accompanied by increased excitability, restlessness and queer and indescribable feelings about the head After this reaction she was seized with an unconquerable desire for sleep She had eleven hours of very sound and restful sleep, after which there was a most marked improvement in all her nervous symptoms At the last treatment, May 24, she felt so well that she wished to abandon treatment, her general health was better than it had been for years, and she felt able to do all of her general housework Exophthalmus still evident, though much improved Goiter, not visibly perceptible, though still slightly enlarged Pulse, 78 Improvement in tremors and reflexes Patient was seen again October 13, and showed a continued improvement

CASE 3.—Miss W., aged 36, seen May 15, 1907 This patient was a chronic hypochondriac, with a tendency to melancholia She had undergone numerous surgical operations, including an appendectomy, ovariotomy and nephrorrhaphy She had no mental symptoms peculiar to exophthalmic goiter She complained mostly of insomnia Eyes were slightly protuberant Thyroid, moderately hypertrophied, heart negative, pulse 90 soft regular and not increased in tension Fine tremor of tongue and hands Skin, cold, clammy and showing yellowish brown pigmentation

Treatment.—Same as in Case 1 This patient had but three treatments, when she decided that they were not giving good results and she was not seen again

Features of this Case.—Pulse before first x ray exposure, 90 one minute after 86, five minutes after 80 Almost immediately after the first treatment she experienced a very peculiar nervous reaction which frightened her very much She gradually recovered from this condition and had a restful sleep Nervous reactions followed the second and third treatments, and it was on account of these she decided that the treatment was not suited to her case.

Diagnosis.—Doubtful

CASE 4.—Miss A., aged 53, seen May 4, 1907 Had gradually lost flesh and strength, and had suffered from general nervous disturbances for the past six years One year later she gave up her position as teacher and from that time she has grown gradually worse until she was unable to go about. Appetite good, sleep irregular She complained chiefly of weakness in the lower extremities, felt unable to walk more than a few steps and frequently collapsed For the past two months she had had numerous and copious mucous dejections She attributed all her troubles to a severe mental shock

Eyes were protuberant, Stellwag and v Graefe signs present Thyroid, moderately and uniformly enlarged Throbbing carotids and abdominal aorta, the latter very marked Exaggerated cardiac impulse, no murmurs Pulse, 120, regular, and slight increase in tension Marked tremor of tongue and hands, and a general tremor as well Skin, dark yellowish pigmentation Extremities cold and clammy General emaciation Muscles of calves very flabby

Diagnosis.—Exophthalmic goiter and nervous colitis

Treatment.—Same as in Case 1, but in addition x ray exposures were given to abdomen Had three treatments a week for four weeks Pulse before first treatment 120, after 95, before second treatment 115, after 90 before third treatment 115, after 90, before fourth treatment 95, after 85, before fifth treatment 95 after 90, before sixth treatment 95, after 85 before seventh treatment 88, after 84, before eighth treatment 92 after 80 before ninth treatment 90, after 80, before tenth treatment 92, after 78, before eleventh treatment 85, after 80,

regard to hookworm infection still remains to be determined

It seems, therefore, reasonable to conclude that these systems of sanitary disposal of human waste are practically safe, provided they meet the necessary requirements

From the practical sanitary standpoint, there are certain requirements which the sanitary privy should fulfill Since sub-soil pollution is uncommon while surface pollution is widespread, the first obvious requisite is concentration of the excreta at a single point below the surface of the soil The next essential is to prevent the mechanical distribution of the fecal matter, either by overflow wash or by flies The excreta should, therefore, be deposited a sufficient depth below the surface to prevent overflow during heavy rains and should furthermore be properly covered to eliminate fly breeding Furthermore, since it has been shown that pollution may at times under extreme conditions, penetrate a depth of 10 feet, it is important that a vertical distance of at least 10 to 15 feet be allowed between the fecal deposit and the ground-water level Finally it is desirable that the privy require little attention and be relatively cheap

The above generalizations should form the basis for the practical construction of either pits or septic privies The pit privy can be used safely provided the ground-water level does not rise higher than 10 to 15 feet from the surface In such soils a pit about 3 feet deep would be within the limits of safety if properly protected against flies The cheapness and the relatively little care that it requires would recommend it in certain communities

In limestone regions and in soil where the water-level is near the surface, the pit privy should not be considered safe

In general, it should be emphasized that any form of sub-soil disposal should be designed with a knowledge of the character of the soil and particularly with due regard to the ground-water level This investigation also shows fairly conclusively that pollution of the water supply is mainly surface in origin The dug bucket well is constantly exposed to the danger of surface pollution and direct human contamination The question is of sufficient importance to warrant shifting some of the emphasis from the proper and safe disposal of the excreta to the protection of the water supply from direct human contamination The danger from the latter source is real, while that from sub-soil contamination is rather remote

Lupus —Hunterian Lecture on the Pathology and Treatment of Lupus

By W S HANDLEY, M S, M.D (Lond)

THE author asserts that lupus is a lymphatic disease. The essential event for the establishment of lupus is the inoculation of the bacillus into cutaneous lymphatic vessels The primary lesion is a tuberculous lymphangitis, at first of the dermal lymphatics, but soon the process spreads to the subcutaneous lymphatics and to those of the deep fascial plexus, or in other words lupus is a destructive tuberculous capillary lymphangitis In considering direct histological proofs of his conviction the author points out that just as a lacteal is the central structure of an intestinal villus, so a lymphatic end sac is the central structure of a skin-papilla Here also the blood capillaries surround a central lymphatic. The region where the end-sacs unite by groups occupies the superficial third of the thickness of the dermis The skin is divided into independent lymphatic areas whose only lymphatic communication with each other is by way of the fascial lymphatic plexus This absence of anastomotic communication, except by way of fascial plexus, between the adjoining primary lymphatic areas of the skin, prevents the direct spread of pathological processes along the skin. They can only spread by first getting down to the fascial plexus and thence reascending to the skin to invade adjacent primary lymphatic areas The downgrowth of interpapillary cell columns is due to the hypertrophy of the papilla The failure of *Lupus carcinoma* to disseminate is to be expected if a carcinoma arises in a region where the lymph vascular system has already been destroyed The author's explanation of the causation of vascular congestion and necrobiosis is as follows — The destruction of the lymphatic vessels and their replacement by cords of tuberculous granulation tissue involves results of great moment for the blood-vessels When the lymphatic vessels have been destroyed, the relatively thick and diffuse cord of granulation tissue which replaces them envelops and ensheaths the accompanying blood-vessels Like all granulation tissue it tends to contract, and pressure is thus exerted upon the blood-vessels At first the vein is chiefly affected, and a venous stasis is produced which reddens the affected area of skin Increased transudation of blood fluid follows, and if this stage is sufficiently prolonged hypertrophy of the papillæ of the skin results from the combination of increased transudation with lymphatic obstruction Thus the more chronic forms of lupus tend to assume a warty form If however, the tubercular process is more rapid, venous obstruction with its accompaniment of increased transudation is only a fleeting phase The pressure of the contracting granulation tissue soon affects the arterioles, restricts the blood supply, and diminishes transudation Under these circumstances we find, instead of warty hypertrophy of the skin, a failure of nutrition in the overlying skin and in the tuberculous tissue itself Ulceration and caseous changes follow The particular form which lupus assumes thus depends on the degree of pressure exerted on the blood-vessels by the contracting granulation tissue which forms around them as a result of the tuberculous lymphangitis of their comitant lymphatics"

Treatment—Whenever possible, therefore—and it can be done in all cases of lupus of the trunk and extremities—an area of deep fascia at least as large should be taken away in one piece with the area of skin excised The test of the completeness of the removal is that muscular tissue should be seen in the floor of the resulting wound In any operative interference the following three facts must be taken into consideration —

1 That lupus is a destructive proliferative lymphangitis, only confined to the skin in its earliest stage If the area affected exceeds half an inch in diameter it must be assumed for reasons of lymphatic anatomy that the subcutaneous tissue and the deep fascia are also infected

2 That the disease is spreading in the deep fascia, not in plane of the skin, and that accordingly the infected area of deep fascia is slightly larger than the infected area of skin

3 That the visibly diseased area of skin is surrounded by a zone about a quarter of an inch wide in which microscopically tuberculous lymphangitis is already present

Method of Operation—The visibly infected skin must be circumscribed by a ring incision In order to allow for the area of early microscopic infection, this incision must not come within a quarter of an inch of the visible edge of the disease The skin edges must now be reflected back for a further quarter of an inch The exposed area of deeper subcutaneous fat is then surrounded by a ring incision which marks out the area of deep fascia requiring removal This area is raised from its edges towards its centre until the diseased deep fascia is removed The surface of the muscles is exposed in the floor of the wound, which is sutured or skin-grafted

Such an operation is obviously impracticable for extensive lupus of the face In lupus of the limbs or trunk it should be the method of choice, unless the disease is very extensive Superficial excisions, not including the deep fascia, are only allowable where removal of the latter layer is impossible on cosmetic or other grounds

months old in which the coats of the vessel were covered with a complete tube of calcareous matter"

Montard-Martin[6] reports a child without kidney involvement or luetic infection, dying of smallpox Autopsy revealed plaques at the aortic orifice and in the aorta, and the aortic valves covered with calcific incrustations Andral found calcific plaques in the aorta of a girl of 8 years Brooks observed coronary sclerosis in a boy of 15 years

Henning[7] reports congenital changes in the aorta and heart valves of a fetus whose mother had, during pregnancy, an attack of acute rheumatic polyarthritis

In the etiology of local and general arteriosclerosis syphilis and alcohol appear to be somewhat less frequent than is commonly assumed

Remlinger[8] in 281 cases, mostly localized, found luetic infections in but one instance In Brooks' series of 368 cases he regards syphilis as a possible cause in 38 alcohol in 149 In his 270 coronary sclerotics alcohol as a factor obtained 107 times

Richard Cabot[9] performed autopsies on 233 chronic alcoholics of the worst kind, finding sclerosis in any form or location in but 6 per cent The more frequent causes of this disease, when localized in the renal, pancreatic, gastric and hepatic vessels, is over-alimentation, and this factor, along with mental strain and anxiety, is productive of local degeneration in cerebral arteries

Thayer[10] conceives the rôle of the acute infections as productive of focal degenerations, an important factor in the later development of local or general arteriosclerosis

Among 150 cases in the very young which I have gathered from the literature (chiefly of localized disease), rarely is congenital syphilis mentioned as a cause In the young, however, acute infections are responsible for a large proportion of cases This opinion is fortified by examination of the records of the series of 150 autopsies from earlier literature, already mentioned, by the reports of a series of 24 cases under 20 years, lately published by Simnitzky,[11] by the youthful members in the aneurismal series of Parker,[12] Jacobi[13] and Keen[14] and by the work of Thayer and Brush indicating the effect of typhoid on the blood vessels at all ages Especially is one impressed by the latest and most instructive paper of Wiesel[15] who made section on 300 cases in the very young dying of acute infections, finding mesarteritis or endarteritis in the aorta or in some part of the arterial tree His observations are on microscopic changes occurring at the height of acute disease In his 20 detailed records of changes in diphtheria, microscopic nests of necrosis in the media were found in all, in 2 the intima was affected and macroscopic changes were visible Ages ranged from 6 months to 14 years The longest period of illness was seventeen days Lesions were localized in aorta and peripheral arteries in 9, aorta and pulmonary arteries in 2, aorta and hypogastric in 1 peripheral arteries solely in 3, aorta, peripheral and cerebral vessels in 1, aorta, peripheral and kidney vessels in 1, peripheral arteries pancreas and kidneys in 2

The relation of arterial tension to localized arteriosclerosis is an important and practical consideration Janeway[16] has pointed out that "without involvement of the splanchnics increased blood pressure is not the rule" in general arteriosclerosis

Oliver[17] says "there may be extensive thickening of the arteries, brachial, radial, temporal, and yet the blood pressure not exceed normal limits"

Kaigi Sawada[18] saw 8 patients between 14 and 26 years of age, without heart or kidney signs, with hypoplasia of the blood vessels and normal pressure In Brooks 270 cases of coronary disease only 35 showed high blood pressure, and these were associated with cardiac hypertrophy Thus, without special localization of disease in heart, kidneys or splanchnic area, hypertension is not the recognized expectation

Hare[19] has shown that hypertension exists independently of sclerosis, though its persistence must be regarded as a precursor to that condition Thus, advanced general sclerosis, without special localization, with fair adjustment of all organs to their work, not infrequently passes onward in its development without striking pressure changes, on the other hand, many cases not diagnosticated as cardiovascular are suffering from a dangerous condition of the coronaries or other special vessels, although quite free from suggestive symptoms In a large majority of the coronary cases angina pectoris is wanting, and true anginas are not infrequently mistaken for the pseudo variety or for intercostal neuralgia In 270 cases of coronary disease Brooks detected sclerosis of the peripheral trunks, antemortem and postmortem, 116 times

Spasm of diseased coronaries induces angina pectoris, of the temporals, certain neuralgias A gentleman of 60, now under observation for ten years, has had periodic attacks of intense temporal headaches, supervening mental overwork During the past year remedies for relief of arterial spasm have been entirely efficient

A woman of 50, suffering from daily headaches, uncontrolled by usual remedies, came under my care one year ago Systolic pressure 180, and ophthalmic examination by Dr Wilmer revealed vasomotor spasm of arterioles Reduction of pressure by hydrotherapy and iodids, combined occasionally with nitrites, have relieved the spasm of locally diseased vessels and symptoms have been absent for many months

Janet considers many cases of neurasthenia in the middle-aged as expressions of local or general arterial disease

A man of 45, who had conducted large enterprises, was suddenly prostrated five years since, and came under my care at Palm Beach History and physical examination were negative, radials and tension normal Gradual recovery followed rest, but during the past year he has suffered two seizures of cerebral apoplexy, a demonstration of locally diseased vessels In Reynaud's disease the extreme intermittent pain is dependent on spasms of locally stiffened vessels and has been termed "angina pectoris" of the foot

Collins[20] proves that sclerosis of blood vessels of the brain is "to be found on autopsical examination of individuals who during life showed no evidence of the disorder in the skeletal blood vessels as a sole pathologic lesion"

6 Bull Soc anat de Paris 1877 xii 173
7 Jahrb f Kinderheilk xxx
8 Zur Statistik d Arteriosclerose 1905
9 THE JOURNAL A M A 1904 xliii
10 Am Jour Med Sc March 1904 New York State Jour Med., 1903 iii 1
11 Ztsch f Heilk 1903 xxiv 4 Abth f path Anat p 177
12 Tr Med Chir Soc., Lond., 1857 lxvii p 51
13 Arch Pediat 1890 vii 161
14 Med News 1887 ii 7
15 Zts hr f Heilk. 1906 xxvii, 262.
16 Clin Study of Blood Pressure 1901 p 43
17 Blood and Blood Pressure 1901 p 261
18 Deutsche med Wchnschr 1904 xxx 425
19 Ther Gaz Dec 15 1905 p 810
20 New York Med Jour 1906 p 1167

further restricted and salt prohibited Perspiration may be induced cautiously Digitalis is contra-indicated and other diuretics have been found of no value

In the pre-eclamptic stage the patient is placed in a quiet dark room and venesection and one or more lumbar punctures made Morphine or veronal-sodium, of the latter 0 5 gm intravenously, may be given Operative interference is always to be kept in mind

In the treatment of actual eclampsia the following rules have been established —

1 General constant supervision, the avoidance of irritation by light, noise, etc., all necessary manipulations under narcosis, avoidance of food and of infusions

2 Avoidance of labour pains if labour is in progress, operative emptying of uterus Mild pains or after-pains are controlled by morphine.

3 Relief of arterial tension venesection, except just before or immediately after delivery, veronal

4 Relief of intracranial tension repeated lumbar puncture or decompression.

In the cases with small, rapid pulse and rapidly rising temperature, mild coma and pallor, heart stimulants and infusions of saline and adrenalin solution are administered. Since these symptoms are due to compression of the medulla decompression is the only positive remedy — R. E. Wobus in *The American Journal of Obstetrics and Gynecology*, October 1921

The Roentgen-Ray Treatment of Cancer

THE following statement has been issued by the Council of the British Association for the Advancement of Radiology and Physiotherapy (a body which includes the great majority of roentgenologists in this country)

In view of the publicity given to radiotherapy for cancer by laudatory articles in the medical and lay press, and the extraordinary claims put forward by the authorities of the West London Hospital it seems advisable that a considered statement on the use of these agents should be made. The treatment has not yet been thoroughly tested It possesses great potential dangers, and may not prove as efficacious as the claims now made would suggest. In the nature of the case, however, no certainty can be arrived at for some years The unwarranted laudation of the recent change in technic will probably lead to a reaction, and bring discredit on roentgen-ray treatment in general The claim put forward by the Erlangen school is that by means of their special method it is possible to administer a dose of roentgen-rays which will cure cancer in one application This claim is commented on in the *Lancet* The suggestion is made in the press that cases of malignant disease should go to the radiologist immediately the diagnosis is made, and before operation, is based on the observation of competent observers There is little doubt that the time has come for us to reconsider our position in dealing with the situation.' This we regard as a most ill-advised pronouncement, and we emphatically disagree with the conclusions expressed The time has not yet come when radiotherapy may be regarded as the first choice in the treatment of the majority of cases of cancer We believe that, of any single method, surgery still offers the best prospect of cure in nearly all cases of cancer, and that until much more convincing proof of the efficacy of roentgen-rays or other form of radiation is forthcoming it would be dangerous to encourage patients to trust to roentgen-ray treatment alone for the cure of these very serious conditions The possibility of successful surgical intervention ought to be, in each particular case, fully discussed. We are, however of the opinion that a closer co-operation between the surgeon and the radiologist would lead to a clearer appreciation of the value of irradiation in treatment, and that in all cases both surgery and irradiation therapy should be fully considered, with a view to making the fullest use of both. Combined treatment offers the greatest hope of success The methods employed in this country up to the present have given promising results They have been worked out for use in conjunction with surgery, and it would be unwise to abandon them before we are assured that the more intensive form of treatment will give the patient an increase of favourable chances Radiologists in this country have, during the past few years, so far perfected their technic that the risk of any injury to the patient is now small provided his treatment is under the direction of experienced men In our opinion the real contribution to progress on the part of the Erlangen school is that they have employed in suitable quantities roentgen-rays of a higher penetration than that hitherto used, and have also carefully systematized already known methods of measuring dosage Whether or not these rays ultimately prove superior in all cases to those of less penetration, this is an achievement for which they will always be entitled to credit. It is unnecessary to import the apparatus from Germany, several firms in this country are now making the requisite equipment, so that the difficulty of obtaining plant will not be a bar to research

Serum Globulin in Kala-azar

RICHARD H P SIA B S, M D, AND HSIEN WU, S.B, PH.D

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IN a previous paper, one of us reported a series of cases in which Ray's hemolytic" test for kala-azar was performed It was found that the blood of kala-azar patients always gave a positive reaction, whereas in all the other diseases studied, including severe anæmias, the test was negative

The test consists in adding a small quantity of blood, obtained by skin puncture, to 10—30 times its volume of distilled water contained in a small test tube. In kala-azar the solution becomes turbid at once, and on standing, a heavy, white precipitate is formed With normal blood from all other diseases, the solution quickly clears and remains transparent

Findings similar to this were also made by Brahmachari who believed that the turbidity described above was due to the precipitation by distilled water of a globulin-like substance present in the serum of kala-azar patients Ray, however, considered that the turbidity was caused by incomplete hæmolysis of the red blood corpuscles, since examination of the sediment microscopically showed ' shadow corpuscles", and that this incomplete hæmolysis was due to changes in the blood serum of kala-azar patients

The authors found that when kala-azar serum alone is mixed with distilled water a precipitate results This precipitate is just as heavy as that produced by whole blood Thus it is evident that the turbidity is due to the precipitation by distilled water of some element in the serum, and does not depend on the presence of the red corpuscles

Incomplete hæmolysis, therefore, is not the cause of the turbidity The fact that the turbidity is produced on diluting the serum with distilled water suggests that the substance in question may be the serum globulin as pointed out by Brahmachari

Quantitative studies of the globulin content of kala-azar blood revealed the fact that in this disease the serum globulin is not only much increased over normal but the concentration is higher than has been found in any other diseased condition.

It is suggested, therefore, that this test be called the globulin precipitation test for kala-azar —*The China Medical Journal* November, 1921

[A reference to this *Gazette* for 1917, pages 319 and 429, will show Dr Brahmachari's work on the subject. —*Editor*]

The Earliest Stage of Senile Cataract

IN the *Lancet* of February 4th, 1922, Lieutenant-Colonel Henry Smith discusses the earliest symptoms of cataract

injury to the tissues around the kidney, and in this way lowered their resistance to bacteria

An interesting fact about these cases is that all three abscesses were on the right side The only explanation that I can offer is that the right kidney and perinephritic tissues are somewhat lower than the kidney and tissues on the left side, consequently the right perinephritic tissue is more liable to injury from the pressure of the uterus during the muscular exertion incident to parturition The left kidney, which is higher up, partly escapes the bearing down pressure of the pregnant womb

The fatty capsule of the kidney is surrounded by a special layer of fascia, the so-called renal fascia, which separates the fatty capsule from the true retroperitoneal tissue This fascia is defective below, at the lower pole of the kidney, allowing the fat in the fatty capsule to become continuous with the retroperitoneal fat at this point The vessels of the fatty capsule anastomose freely with the venous plexus around the ureter Stahr[1] published a paper, in 1899, showing that the kidney and its fatty capsule, contrary to the generally accepted opinion, possess systems of abundant lymphatic capillaries These lymphatics in the fatty capsule necessarily communicate freely with the retroperitoneal lymphatics at the lower pole of the kidney where the renal fascia, which encloses the rest of the fatty capsule, is defective

It is not difficult to understand, then how bacteria taken up by the puerperal uterus may be carried by the lymph vessels through this defect in the renal fascia and deposited in the fatty capsule where a point of least resistance has already been made by the trauma of recent parturition

The symptoms and diagnosis of perinephritic abscess are exceedingly important, because the symptoms are often vague and difficult of interpretation in the early stages of this disease, and because the successful termination of these cases, as shown by statistics of Henry Morris, Kuster, Bowditch, Rosenberger and others, depends largely on the promptness with which the disease is recognized and operation undertaken Gibney has pointed out the symptoms by which the early stages of perinephritis may be recognized even before pus has formed

When, after an injury or violent muscular exercise, as in parturition, there is tenderness on pressure over the kidney, and the patient on sitting or standing inclines to the tender side, the possibility of perinephritis is at once suggested

According to Gibney, in the early stages of this disease, the spine is unnaturally stiff and curved in an antero-posterior direction The curvature is not angular, and there may be some deviation from the affected side There is stiffness in walking, and the body is inclined to the inflamed side to such an extent that sometimes the ribs and the crest of the ilium are in contact When the patient sits she is likely to rest on the opposite tuberosity of the ischium with the body bent to the affected side and the thigh and the leg somewhat flexed While standing the body will be bent on the thigh of the affected side If an attempt is made to stand erect the body is thrown over toward the tender side and the opposite thigh and leg are flexed It is difficult to stoop When the patient lies on the back, it is impossible to extend the thigh In severe cases every movement of the trunk is painful Flexion of the thigh gives no pain, but an attempt at complete extension will be impossible and will cause much discomfort Abduction and adduction are usually not interfered with to any marked extent

When pain in the knee is complained of together with lameness and muscular rigidity, the diagnosis is often confounded with hip-joint disease In perinephritis there is no atrophy of the muscles of the thigh, the leg on the affected side is not shortened, and there is no swelling or tenderness on pressure about the trochanter or neck of the femur Passive motions of the hip-joint cause no pain The temperature in perinephritis, even in the early stages, frequently reaches 103 degrees or higher

As the disease progresses, other symptoms are marked The high temperature continues and sweating coated tongue, loss of appetite nausea and other constitutional indications of sepsis make their appearance Constipation is always a prominent symptom and is partly due to the patient's dread of pain on muscular effort In chronic cases, or those progressing slowly, the elevation of temperature may be slight In weakly individuals the symptoms are often quite atypical, and may be masked until the abscess forces itself on the attention of the surgeon by its increase in size Even in these cases, however, lameness is present at an early stage

Pain on pressure is an early and continuous symptom, the pain is often deep seated and paroxysmal, though, as a rule, it is present to some extent constantly The distribution of the pain is usually wide, this being due to the irritation of the nerves of the lumbar plexus, which is in immediate proximity to the perinephritic abscess In two of my cases pain in the hip was a prominent symptom, in the third case it was referred along the iliac crest Pain may be referred to the knee joint, as in hip-joint disease, or to the external genitals, as in kidney colic, or around the abdomen, as in the case of appendicitis Pain is always increased on pressure over the loins

As the disease develops, fulness in the outline of the tender flank is noticed Some muscular spasm also appears The swelling in the region of the kidney is at first hard In one of my cases it was somewhat nodular from excessive exudate and simulated very closely a malignant tumor The fulness in the flank can be observed in outline by comparing the two sides under a good light Sometimes pressure of the mass on the iliac veins causes swelling of the foot and ankle If the pus is not evacuated at this stage it frequently burrows to the surface, and the skin becomes edematous and waxy in appearance, and later on it may become red The abscess may, however, burrow into the pelvis below, or upward into the lung or pleura, or it may rupture anteriorly into the bowel or peritoneal cavity Fluctuation is not often detected, even in the late stages

The urine in cases of perinephritic abscess following parturition is not often affected, unless the abscess ruptures into the kidney, which is rare

The character of the pus may be quite different in different cases, frequently the odor is of a fecal character, without any direct communication with the bowel

The treatment of these cases consists in evacuating and draining the pus by a lumbar incision, similar to that employed in the operation of nephrotomy This should be done as soon as the diagnosis is made, as the mortality of this affection is greatly increased by delay in operating

1 v Bergmann & Surgery vol v page 334.

past two years so that the first large edition which appeared late in 1917, was evidently exhausted very rapidly

The book contains in a readable form what every doctor ought to know about diabetes In this new edition the more recent work on the subject has been incorporated and fresh records from Col Waters' own clinical experience have been included

Diabetes is a subject which needs special treatment for Indian students and practitioners and the present little volume exactly meets the special requirements of Indian medical men

McCay's recent work is freely drawn on though the author does not see eye to eye with him with regard to the importance of acidosis in the diabetics of Bengal So far as the practical management of the disease is concerned, there is a pleasing unanimity amongst recent workers and it really looks as if the disease had become fairly easy to treat, provided of course that the patient will loyally co-operate with his medical man

The dietetics of diabetes which is the all-important matter in connection with the disease is fully and clearly dealt with and any doctor who reads this book carefully should have no difficulty in handling his cases with satisfaction to his patients and himself

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THE CARE OF INFANTS IN INDIA Published by MESSRS GEORGE GILL AND SONS, LTD, 1922 Tenth edition

THIS book issued by the proprietors of Mellin's Food, is mainly intended for the use of Anglo-Indian mothers It contains a simple account of the hygiene of infancy in warm climates, and the minor ailments which may be encountered

The question of infant feeding is largely taken up by a description of the various uses of Mellin's Food

The chapters on the nursery and ayah, care of the child, teething and vaccination, should prove of considerable help to those for whom this book is intended

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THE THRESHOLD OF MOTHERHOOD A HANDBOOK FOR THE PREGNANT WOMAN —By R DOUGLAS HOWAT, L R C P (Edin), L R C S (Edin) AND L R F P S (Glas) Published by Messrs Maclehose, Jackson & Co, 1922 Price 3*s* 6*d* net

AN attempt is made to explain the various phenomena which occur during the successive stages of a normal pregnancy, and those functional disturbances which are likely to occur Unnecessary technicalities are avoided so that the average pregnant woman may understand

The directions as to care during pregnancy and for personal hygiene are simple and will be found of considerable use The preparations for the confinement are well described, and the hints given as to what is really necessary should prove helpful to the middle class expectant mother, who is obliged to consider ways and means

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MENTALLY DEFICIENT CHILDREN THEIR TREATMENT AND TRAINING —By G E SHUTTLEWORTH, B A, M D AND W A POTTS, M A, M D Published by Messrs H K Lewis & Co, London Fifth edition, 1922 Price 10*s* 6*d* net

IT is not surprising to find a demand for a new edition of this work, supplying, as it does, in so large a measure, the needs of all who are concerned in practice with the care of young children Although the great war and the consequent financial stringency in Great Britain have seriously interfered with the carrying out, as completely as could be desired, of the provisions of the Mental Deficiency Act, 1913, it appears from the more recent information supplied in this book, that considerable progress has been made More extended provision for the care of the defective class has also been made in the United States of America and in the British Overseas Dominions, notably in South Africa, where a comprehensive Mental Disorders Act, including in its scope the classes of congenital defectives, moral imbecile and epileptic deviates, was passed in 1916 The volume is well illustrated Twenty-nine illustrations including twenty-one plates, together with the clearly described clinical cases in the text should prove of considerable help to the general practitioner in India who may be called upon to deal with cases of abnormal development in children, mentally feeble or deficient, presenting special difficulties in diagnosis and prognosis The recommendations as to treatment are very useful, together with the observations on special educational methods, based on physiological principles which are well described

In view of the pioneer work done by one of the authors of this book as Psychological expert to the Birmingham Justices, special interest is attached to some additions to the text in this new edition, relating to mental tests and criminal procedure Recently the recognition of the importance of individual examination and treatment in criminal work, as well as in education has done much to stimulate research While emphasising the importance of the psychological examination of juvenile delinquents, the authors state that they do not consider any one set of tests yet put forward as completely satisfactory in determining whether a particular individual is defective or not, and in their opinion the judgment of the examiner is called for after all, especially in regard to the influence of environment and physical conditions

The fact that a whole chapter should be devoted to the requirements of the medical examination of mentally defective children under the regulations of the Board of Education,

Personal History—The patient is a frail looking young man of 25 years, with extreme congenital torticollis, the head being bent to the left. He states that his health has always been fairly good, and that he has seldom had occasion to consult a physician. His father, aged 73, and his mother, aged 64, are still living and in good health. He has two older brothers and two older sisters living and in good health. None have married. One sister died of tuberculosis about ten years ago, at the age of 27, and there is a vague history of several cases of tuberculosis in the family—maternal grandmother and uncle, and paternal grandfather. There is no family history of serious or striking ocular affection or abnormality.

The patient's education is fair for a farmer boy, and although he did not attend school on account of his deficient eyesight, he pursued his boyhood studies at home and can read and write fluently. He has always lived on one of his father's farms in New Jersey. Despite his ocular defect, he says that for the past fifteen years he has driven alone all over his neighboring country, and although he is not able to see clearly the occupants of strange passing vehicles, he can recognize persons with whose driving outfit he is familiar. He also says that he has no great difficulty in walking or driving after dark. He reads the daily newspapers, and keeps fairly well posted in the current affairs and happenings of the day. This reading is done with difficulty, and only under advantageous illumination and distinct print.

He sought my aid for the purpose of securing reading lenses, saying that on several previous occasions, many years ago, he had consulted oculists who had "refused to give him glasses." For one so afflicted he is of a particularly happy disposition, and although his countenance is dull and apathetic he is fairly bright in his conversation, but, of course, far below the average mental development of an American youth of his age.

Ocular Appearance—Both eyes are affected with nystagmus of varying degrees, making ophthalmoscopic and retinoscopic examination most difficult and unsatisfactory. The right eye is extremely small, the corneal diameter measuring but 8 mm. There is a partial coloboma of the iris. The pupil is vertically oval and displaced downward. Fetal remnants are seen in the lower median portion of the pupillary opening. The movements of the eyeball are irregular and greatly limited in the upward rotation and almost lost in external rotation beyond the median line. Ophthalmoscopic examination shows extensive affection of the choroid and retina, with pigmentary changes throughout the whole fundus. There is a medium sized inferior coloboma of the choroid and optic-nerve sheath. Vision equals 20/80, not improved by lenses.

The left eye is considerably larger, the diameter of the cornea measuring 10 mm. There is complete coloboma of the iris downward in the median line, giving the appearance of the so-called "keyhole" pupil. Fetal remnants are plainly visible in the inferior periphery of the coloboma. Ophthalmoscopic examination shows an extensive inferior coloboma of the choroid and optic nerve sheath simulating an enormous posterior staphyloma. The refraction is highly myopic, some portions of the irregular fundus plane measuring as much as 20 D. Vision equals 4/200, and can not be improved with concave lenses beyond 10/200. The ocular movements are irregular and much restricted, and the power of external rotation beyond the median line is practically lost. Both pupils are responsive to light stimulus and dilate slightly under homatropin and cocain.

The interesting feature of the case is the remarkable preservation of useful vision in a microphthalmic eye with a corneal diameter of only 8 mm. The average corneal diameter is about 11.6 mm., although I recently prescribed convex cylindrical lenses for a patient with normal visual acuity, whose corneal diameters were 13½ mm. and 13¾ mm., respectively.

1806 Chestnut Street.

Effect of Weather on Bowel Conditions.—A. K. Bond, Baltimore (*Maryland Med. Jour.*), thinks that weather changes cause bowel congestion, fermentation, blood pollution, artery spasm, kidney irritation, nerve poisoning, in this order.

SARCOMA OF MEDIASTINUM INVADING THYROID

W. H. SNYDER, PH. B., M.D.
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This is such an unusual case from the pathologic and clinical standpoint that it seems well worth while to report it.

C. E., male, aged 37, seen Aug. 1, 1907.

History—Family history was negative, except that the mother had a goiter at the age of 45. Patient stated he had had only the diseases incident to childhood. The present illness dates from April 1, 1907, when he was working in a shop where there was considerable gas and smoke. He developed an irritating cough, but did not expectorate. He also noticed a difference in his breathing, necessitating a little effort to keep his lungs filled. By the middle of May the cough and breathing had become worse. A month later the cough was quite troublesome, he was slightly hoarse and expectorated some mucus. July 15 he quit work and went north, hoping to get rid of the cough.

At this time he noticed a swelling in the right supraclavicular region and a small nodule near the posterior border of the sternocleidomastoid muscle. The voice became quite hoarse and the breathing very difficult on the least exertion. There was considerable loss in weight in the last five months. The right side of his head and face felt at times as though paralyzed.

Examination—The patient was of large stature, weighing about 170 pounds (usual weight 200). He was emaciated, but not cachectic. In the right supraclavicular fossa was a tumor causing the sternocleidomastoid to bulge and displacing the trachea and larynx far to the left till nearly in line with the angle of the jaw. The mass was as large as a fist, hard and immovable. Pressure on it to the left closed the trachea and shut off his breathing—no movement up or down. It appeared to involve the thyroid. Above this and at the posterior border of the sternocleidomastoid was a smaller bunch about as large as a walnut. This was freely movable. The veins of the left side of the neck were prominent and pulsating. Sputum was thick and tenacious.

Examination of throat and larynx negative, chest negative, except a slight dulness in the left infraclavicular region, abdomen and extremities negative.

Diagnosis—Tumor involving thyroid, probably malignant and a possibility of extension to the mediastinal and cervical lymph nodes. The diagnosis was confirmed by Dr. C. F. Boys. As the man was in extremis, he requested the removal of the tumor, if possible. He was advised as to the probable hopelessness of such a procedure, but insisted in his demand, and August 15 the operation was performed.

Operation—Ether anesthesia. An incision was made extending from the middle of the anterior border of sternocleidomastoid downward and to the left, ending at the center of the trachea over the thyroid isthmus. This incision exposed the right thyroid, together with the tumor mass which seemed to grow from the lower border of the gland. The mass was wedged in the angle between the trachea and sternal end of the clavicle, firmly adherent to the former, necessitating careful dissection. The gland was ligated at the isthmus, and the right half was removed with the tumor. The right carotid was found crowded far outward from its normal position. The small nodule higher in the neck was removed, and the wound was closed, with gauze drainage in lower angle.

Postoperative History—The patient recovered quickly from the operation, the wound healing by primary union, and left the hospital in twelve days. The breathing, however, was improved only temporarily. The mass that caused the greatest pressure had been removed, but the mass from below quickly pushed its way up, a little posterior to the position occupied by the tumor removed. Swallowing became difficult, breathing stertorous, while the head and face symptoms on the right side became worse. The second day after the operation the expectoration increased in quantity and consisted largely of large masses of tenacious, currant jelly colored material. This



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can we explain to the medical student the importance and significance of these sounds, their interpretation—sounds heard, say, in asthma and bronchitis—unless we have some appropriate terms, which, when once comprehended, are as distinct and reliable to the mind as are the words "piano," "flute" or other arbitrary word?

Again, the author says that râles are of no value in arriving at a clean-cut diagnosis Is it not a fact that many a diagnostician has clinched his diagnosis in pulmonary tuberculosis when over a local, circumscribed area about the size of a silver dime he gets a few râles when consolidation is too limited to give a high-pitched note? The author says, further, that there is no such thing as pitch in percussion other than applied to the chest wall Does he mean to convey the impression that percussion is practiced only by the physician? How about the carpenter percussing a house wall? Years ago, long before the physician ever thought of practicing percussion over the chest, a resonant area, the carpenter had applied percussion over the resonant house wall Have you ever noticed the carpenter when he tries to drive a nail into a wall? He begins percussing with a hammer over that part of the wall which overlies the lath and plastering, and percusses either to the right or to the left until he reaches a scantling over which the pitch is raised—an airless area—where he drives the nail Numerous instances can be cited, both in the arts and in science, where percussion is practiced elsewhere than on the chest wall

The author does not place much dependence on either inspection or palpation Many instances can be shown whereby a good diagnostician has based his findings positively on either inspection or palpation Inspection, as well as palpation, is not practiced sufficiently by physicians to make them proficient. Auscultation invariably clinches the diagnosis, all other physical findings must be in harmony with it To auscultation is accorded the highest place in the methods of physical diagnosis, and not to percussion, as the author says The difficulty with many practitioners is the too early use of the stethoscope—not waiting to use it only as a confirmatory means

Every progressive physician is open to conviction, always ready to adopt any reliable method which may simplify the diagnosis of disease, but methods must be better than those which we have been taught and have tried for years to improve on Examination of the chest with positive findings is not always easy, no matter what method or system is pursued, as any clinician of experience will acknowledge, notwithstanding the author's so-called simplified and easy method

COLLAPSE AFTER USE OF DIPHTHERIA ANTITOXIN

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The cases of collapse after the use of diphtheria antitoxin recently reported in THE JOURNAL reminded me of a similar case though fortunately not so serious

Miss —— age 25 complained on March 20 1906, of slight soreness of the throat, examination of which was negative Temperature pulse and respiration were normal March 21 there were general malaise, backache, tonsils large and reddened with two or three crypts filled with yellow exudate the picture of acute follicular tonsillitis nevertheless a culture was taken Temperature range was from 101 1/5° to 103, pulse 108 to 118

March 22 there was dysphagia, rather severe, and an unmistakable membrane, though small in amount and limited to the tonsils The culture was reported positive for Klebs Loeffler bacillus Temperature, 100, pulse, 96, and of good quality At 11 a m, 5,000 units of antitoxin were administered, followed in about twenty minutes by the complaint of burning and itching of the skin of the chest, which presented a marked erythema

Thirty minutes after the injection the patient tried to lift herself onto a bed pan and immediately collapsed She was extremely cyanotic, had marked dyspnea with slight dilatation of pupils, and froth issued from the mouth There was total loss of consciousness for a few minutes No radial pulse was palpable for four hours She rallied under nitroglycerin, strychnin and salt solution, given subcutaneously and per rectum At 6 p m she was removed to a hospital

A marked edema of eyelids was noticed and a small amount of urine was obtained per catheter, which boiled solid and contained numerous coarse granular and blood casts Three more injections of antitoxin were made, one at 7 p m, of 3,000 units, one at midnight of 4,000 units, and one of 5,000 units early in the morning of March 23

The urine increased in amount, the pulse presented a better quality, and the patient made an uneventful recovery, with no vestige of cardiac or renal involvement at the time of her discharge from the hospital

Questions which naturally arise are (1) If the collapse was due to a diphtheritic cardiac paralysis, it occurred much earlier than usual (2) If caused by the antitoxin why did improvement follow its persistent and continued employment with increasing dosage?

REMOVAL OF A PIN FROM LUNG BY UPPER BRONCHOSCOPY

E FLETCHER INGALS, M D
CHICAGO

Although bronchoscopy is still a new operation, so many cases have been reported that little value can be attached to a single case, except as it furnishes some point of interest not heretofore brought out.

Earlier reports on this operation led us to believe that it was not attended by danger A knowledge that the reporters were cognizant of deaths closely following the operation, and personal talks with other operators, as well as my own experience, have convinced me that there have been a considerable number of unfortunate cases, in some of which the immediate cause of death could not be detected It is important that all operators should understand the difficulties they are likely to meet with in order the better to overcome them

The principal difficulties are Trouble in introducing the tube, poor illumination, difficulty in following the lumen of the air passages with the bronchoscope, respiratory contraction of the bronchi, or even of the trachea in infants, excessive secretions, and the perplexity in searching through a pulmonary cavity because of its flaccid and irregular walls, or because of the presence of pus, blood or granulation tissue If the objects are small, the bronchoscope may pass beyond them, or they may be hidden completely by a collapsed or spasmodically closed bronchial tube

In passing the bronchoscope, my introducing instruments have reduced the time required to get the tube through the glottis to only two or three minutes Unless these instruments are employed, the tongue should be drawn far out while passing the bronchoscope, care being taken that the point of the forceps does not tear out through the tip The extracting instruments must have the proper length and form for the particular case

The incision in the palate being made as near as possible to the dental margin and parallel to it, it is easy to raise the hard palate and push back the soft palate sufficiently to allow the bony palate to be cut through

It may be objected that the palate is often infected Such cases are rarely suitable for operation.

Yours, etc.
L C GILBERT,
Lt-Col, I M S

MANDALAY,
March 7, 1922

To the Editor of THE INDIAN MEDICAL GAZETTE.

SIR —I shall feel obliged if you will kindly find a little space in the columns of your journal for the following note —

On the 2nd January 1922, I performed a medico-legal post-mostem on the body of one Mussamat Masanda, aged, according to my calculation, thirteen years When the abdominal viscera were examined, I was surprised to find that the spleen was not present. Two possibilities occurred to my mind, *viz*, the organ may be extremely small or it may be in some abnormal position I therefore took out the abdominal viscera one by one and made a prolonged search for the organ which I did not find

The pancreas was certainly bigger than normal The kidneys were slightly bigger than normal The mesenteric lymph glands were enlarged. The thyroid and the remains of the thymus were of the usual size. There was no scar on the abdominal wall

The girl was under-developed But on an examination of her bones and teeth, one could hardly have put down her age as thirteen years The causes of death were multiple injuries and lobar pneumonia.

I was questioned in Court as to whether it was possible for any human being to live without a spleen Taking my stand on Beatie and Dickson's assertion ' The spleen is an organ which is not necessary to life " I answered the question in the affirmative.

Dr Banwari Lal, Sub-Assistant Surgeon, was present when search for the spleen was made. As I have not read of congenital absence of spleen so far, I think the case is worthy of record

Yours, etc
TRILOKI NATH VARMA, B SC., M.B. B S,
Civil Assistant Surgeon

SADAR DISPENSARY,
BARABANKI,
6th March 1922

Service Notes.

APPOINTMENT

His Excellency the Governor, with the concurrence of his Ministers, is pleased to appoint Major P K Gilroy, M D F R C S E., I M S, to act as Surgeon Superintendent, St. George's Hospital, Bombay, *vice* Lieutenant-Colonel S H Burnett, M.B, C M (Aber), I M S pending further orders

RETENTION OF RANK

With reference to Army Department Notification No 1569 dated the 5th August 1921, No 2307 dated the 9th December 1921, No 2437, dated the 30th December 1921, No 4, dated the 6th January 1922, and No 142, dated the 27th January 1922 the undermentioned officers are permitted to retain the rank of Captain —

Dodballapur Hari Rau.
Phanmdranath Ghoshal
Hiranya Kumar Sen
Frederick Bertram DeSouza
Suraj Narayan Kapur

PROMOTIONS

THE following promotions are made, subject to His Majesty's approval —

Majors to be Lieutenant-Colonels

Frederick Adolphus Fleming Barnardo, C.I E., C.B.E. M D F R C S E, (Brevet Lieutenant-Colonel), James McPherson, M B, F R C S E, George Denne Franklin, O B E, M B Charles Aikman Gourlay D S O, M.D, William Charles Ross, M.B, Robert Archer Lloyd, D S O, M D (Brevet Lieutenant-Colonel), John Conrad Gie Kunhardt, Ernest Alexander Walker, M B, F R C S E, Lewis Cook, M.B, F.R.C S, Leonard Bodley Scott, M D, Gerard Irvine Davys, M D, Alfred John Vernon Betts, M B, Frederick Ernest Wilson, M B, Behramj Barjorji Paymaster, Norman Walter Mackworth M B F R C S E. (Brevet Lieutenant-Colonel), Henry Ross, O B E., M.B, F R C S I, John Forrest, M B, Leonard Hirsch, C.I.E., F.R.C.S E., Edward Charles Cecil Maunsell, M D, John Warwick Illius, F R C S E, John Philip Cameron, dated 26th January 1922

Alexander William Greig, and Thomas William Harley, M B dated 29th January 1922

Temporary Lieutenants to be temporary Captains

Cochandy Oommen, dated 22nd October 1921
Satis Chandra Sen, dated 29th November 1921

RELINQUISHMENT OF ACTING RANK AND ACTING PROMOTION

THE following acting promotion and relinquishment of acting rank are notified, subject to His Majesty's approval —

Major D C V FitzGerald, M C., to be acting Lieutenant-Colonel while holding an appointment as commandant of an Indian General Hospital Dated 2nd January 1922

Major (acting Lieutenant-Colonel) W E Brierly relinquishes his acting rank on ceasing to command an Indian General Hospital Dated 2nd January 1922

POSTING

MAJOR H P COOK I M S, Civil Surgeon, on return from leave, to Naini Tal, *vice* Lieutenant-Colonel W S Wilmore I M S granted leave

TRANSFER.

MAJOR G A JOLLY I M S, Civil Surgeon, from Benares to Aligarh

---

LIEUTENANT-COLONEL E H HEPPER, I.M.S, Civil Surgeon from Jhansi to Bareilly, *vice* Lieutenant-Colonel W Lapsley, I M S granted leave.

LIEUTENANT-COLONEL H W ILLIUS, C.I.E., I M S, Civil Surgeon, from Aligarh to Benares

---

LEAVE.

MAJOR H P COOK, I.M S, Civil Surgeon, has been granted an extension of study leave from the 1st to the 29th December, 1921

LIEUTENANT-COLONEL W LAPSLEY, I M S, Civil Surgeon of Bareilly, privilege leave for six months, combined with leave on average pay for two months, with effect from the 15th March 1922, or subsequent date.

LIEUTENANT-COLONEL W S WILMORE, I.M S, Civil Surgeon of Naini Tal privilege leave for four months and two days, combined with leave on average pay for three months and twenty-eight days, with effect from the 23rd February, 1922, or subsequent date

---

LIEUTENANT-COLONEL S H BURNETT, M.B, C M (Aber), I M S is granted, with effect from the date of relief, such leave on average pay, preparatory to retirement, as is due to him on that date combined with leave on half average pay up to 31st May 1923

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[For other information see second page following reading matter]

SATURDAY, MARCH 7, 1908

EXHAUSTION OF SOILS

One of the earliest theories advanced to explain the phenomenon of acquired immunity to disease was that of "soil exhaustion," which assumed that the infectious agent might withdraw from the body of its host substances needed for its growth, and by exhaustion of the supply of these substances terminate the existing infection and prevent new infection by the same variety of organisms A phenomenon related to this idea is exhibited by bacteria grown on artificial culture media—after a short time the growth decreases and eventually the organisms die out, and reinoculation of the same tube with fresh cultures of the same variety of organisms is impossible, although organisms of some other variety may grow freely for a time on the "exhausted" medium Now we know that in the case of infection, in the infected animal the immunity does not depend on exhaustion of the soil, but on the development of substances by the host which are specifically injurious to the invading bacterium, while the cessation of growth of bacteria in artificial cultures depends on the action of substances produced by the bacteria themselves, of the nature of toxic excretions which are more or less specifically injurious to the variety of organism that has produced them

On account of their relation to the above historical facts concerning immunity, recent developments in connection with the questions of soil exhaustion and the effects of rotation of crops in agriculture, which have resulted from the investigations being carried on by Dr Oswald Schreiner[1] and his co-workers in the Bureau of Soils of the United States Department of Agriculture become of interest to physicians who are following the development of the biologic sciences, while to the agricultural chemist they are of vital importance

For many years the well-known fact that soils become unproductive for a given sort of vegetation that has been grown on them for several seasons has been commonly attributed to exhaustion of the soil by these plants, which were supposed to have taken out certain constituents necessary for their growth, while enough of the other constituents is left to permit of growth of other sorts of plants In this way the natural change in the character of the vegetation of any given locality as well as the necessity of rotation of crops for successful agriculture, has been explained—just as the immunity to infectious diseases was thought by some to depend on the exhaustion of the human soil by the vegetable parasite causing the disease To be sure, earlier agriculturalists and scientists had suggested the possibility that the inhibition of growth following successive cultivations of the same crop might be due to the presence in the soil of toxic excretions of the plants, which might have a selective toxicity for the plant that produced them, while not toxic, and perhaps even suitable for food, for plants of another variety (de Candolle, 1832), but this theory was given up and practically lost sight of, largely because of the influence of Liebig's teaching that exhaustion of mineral constituents of the soils was responsible for the infertility of soils when used for repeated crops of the same kind

The experiments of the government scientists have brought de Candolle's theory again into favor, however, and seem to have demonstrated beyond question that plants do excrete into the soil on which they are growing organic substances that are toxic, and this toxicity is more or less specific for the variety of plants that produces it Exhaustion of the mineral constituents of the soil can not be responsible for failure resulting from repetition of the same crop, for chemical analysis does not show any depletion of the inorganic constituents sufficient to account for this effect, and replacement of the ashes taken up by the crops that have "exhausted a soil do not restore the fertility On the other hand, it has been possible to demonstrate that non-fertile soils of this kind actually do contain toxic substances which are formed as a result of the growth of the plants, and which are more toxic for the variety of plants that produce them than for other varieties of plants For example, wheat seedlings will grow better in distilled water than they will in extracts of soil rendered unproductive by repeated growths of wheat on it, although such a soil extract contains an abundance of nutritive material which is, of course, lacking in the distilled water The toxic substances, at least in some cases, are readily destroyed by heating, by filtration through absorptive substances, such as carbon black, and also by many different chemical substances, especially those that have oxidizing powers Apparently fertilizers act in such cases not only as food for plants, but also as detoxicating agents, for many fertilizers are found to have the power to destroy the toxicity of extracts of unproductive soils Rotation of crops could hardly account for a return of inorganic elements to an unproductive soil but it does explain destruction of organic plant poisons produced by one plant which are not poisonous to succeeding crops, furthermore, when land is allowed to lie fallow much organic toxic material will be oxidized or washed out, while thorough aeration of the soil through ploughing and other methods of agri-

1 The work on this subject is discussed in the Bulletins Nos. 28, 34, 40 and 47 of the Bureau of Soils also in Farmers Bulletin No 257 of the Department of Agriculture

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From about 12 years of age the state children are apprenticed to various occupations, receiving from their masters entire support, pocket money, and wages on a scale increasing in proportion to their age and usefulness. The pocket money is given to them personally every week, but the wages are placed to their account in the postoffice savings bank, from which they are paid, with interest, one-third on completion of their apprenticeship and the balance on attaining the age of 21.

The report as a whole draws a most gratifying picture of the success attained by a public-spirited community in caring for those of its future citizens who can look to no other source for proper care and attention during the period of development.

VARIATIONS IN THE MORPHOLOGY AND STAINING REACTIONS OF THE TUBERCLE BACILLUS

It has often been noted that in certain tuberculous lesions in men and animals no bacilli can be demonstrated after the most painstaking search. This, too, in spite of the fact that inoculation experiments prove the tissue to be infected with living tubercle bacilli. This phenomenon is frequently observed also in pus obtained from cold abscesses and in the sputum of consumptives.

Hans Much,[1] concluding that there must be present in such conditions a form of organism which does not possess the supposedly characteristic staining property, utilized various other stains in his search for the bacillus. By means of a modified Gram stain he has been able to demonstrate two varieties, or rather forms, of the tubercle bacillus which are not acid-fast. These forms he has conclusively identified both by inoculation and cultural studies and has shown that one form may develop into, or generate, the others. One of these forms, which is Gram positive but not acid-fast, resembles the familiar type morphologically. The other consists of minute granules, somewhat variable in size, which may occur singly, in irregular groups, or connected—forming little rods. They are usually associated with the Gram positive rod form, which seems to be the intermediate generation between the granules and the acid-fast group. It is supposed that the proportion of fat present in the bacilli determines whether or not they will prove acid-fast.

The nature of the granules is a matter of some doubt. von Behring,[2] who has reviewed and confirmed Much's work, is of the opinion that they are probably degeneration forms and makes the interesting statement that he has noted similar granules in the subcutaneous nodules of leprosy. Much suggests the possibility of the granules representing a developmental stage of the organism. Michaelides,[3] who repeated Much's work, also describes a form of the tubercle bacillus which is negative to both Gram and Ziehl-Neelsen, but may be demonstrated by the Loffler-Giemsa stain. The earlier work of Much was conducted largely with the bovine type of the organism, but in a later paper,[4] he showed that the human variety also presents these atypical forms, and Treuholtz[5] has come to the same conclusion. This discovery seems to explain satisfactorily the apparent discrepancy between the results of direct examination and inoculation in certain cases.

1 Beiträge zur Klinik der Tuberkulose viii, part 1.
2 Tuberkulosis vi, No. 9.
3 Beiträge zur Klinik der Tuberkulose viii, part 1.
4 Beiträge zur Klinik der Tuberkulose viii, part 4.
5 Medical Record, Jan. 11, 1908.

THE PHYSICIAN'S AUTOMOBILE

Our Automobile Number of two years ago evidently gave satisfaction, for we have been repeatedly importuned to take up the subject again in a similar manner. This week we devote considerable space to the subject of the automobile as a conveyance for physicians.

Although not strictly medical, the problem is one that is very closely related to the practice of medicine. One will not have to read many of the articles to realize this. Those who have not yet owned a machine but are thinking of buying one may be bewildered at the variety of views expressed on the different points discussed. But by "sifting the evidence" one will be able to draw pretty reliable conclusions, or at least to get information and suggestions that will be valuable. Above all, one will realize, too, that what will suit one may not suit another and that different conditions require different machines to meet them.

A physician who wants luxury, speed and display, and who is willing to pay for them, will have no difficulty in finding plenty of automobiles that will be entirely satisfactory in every way, for the automobile has nearly reached perfection when cost is not considered. This comment applies also to machines of moderate price, say from $1,800 to $2,500. But the great majority are not looking for luxury, and lack the willingness or the ability to pay the price mentioned. They want a practical, dependable conveyance to take the place of a good horse and buggy, and they demand that the initial cost and the upkeep in the long run shall not cost much more than for the horse-drawn vehicle. Such a car must be simple in construction, compact, moderately light, durable—made to last four to five years with ordinary care—and its initial cost must be from $500 to $800. It must have reserve power in low speed to do what can be done with a good horse and buggy—climb any hill and go through the mud or sand to be found in traversing ordinary country roads. High speed is not necessary. While the ideal car, one that will meet every one of these requirements, may not yet be on the market, many of our contributors show that there are some that come very near reaching this ideal, and the number of such cars is increasing.

The reaction has begun. Many manufacturers are realizing that it is the few who are looking for the large,

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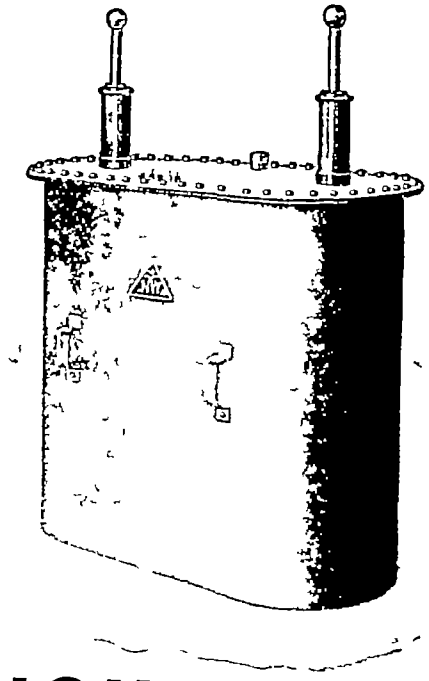
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edge that in special circumstances they were exempt from the restrictions imposed on the general public It is suggested that physicians be provided with a special license, serving as a temporary passport through the streets, so that in case of apparently reckless driving the license number could be recorded and a subsequent satisfactory explanation demanded All the requirements of the case would thus be fairly met There are occasions in a physician's practice, as we all know, when speed and promptness are imperative, and yet might be forbidden by law under ordinary conditions If a physician can show imperative reasons for speed—and he will be able to do this but seldom—let him be exempt from the usual speed regulations for that time and for that time only—under other conditions let him, like any other citizen, be amenable to the law

EXPOSURE OF FRAUDS AND THE LIBEL LAWS

As an aftermath of the *Lancet* libel case, a writer in a pharmaceutical journal,[1] in commenting on the law of libel expresses the opinion that the law in its present form is valuable chiefly to the swindler and sophisticator The psychic effect of skillfully worded advertising—hypnotism by advertisement, as he aptly terms it—is responsible for much of the misconception that exists in the public mind as to the true value of "patent medicines" The only cure for this evil is education of the public and yet with the libel law as it now exists an educative campaign is well-nigh impossible An attempt to expose even the most palpable fraud is fraught with vexation and expense to the exposer The more subtle forms, to which class the majority of "patent medicines' belong, are so bolstered up with the testimony of paid "experts" that most judges and all juries can be confused sufficiently to render them incapable of giving an impartial verdict The difficulty of obtaining documentary proof of even self-evident frauds is very great, and many times in fighting the nostrum evil it has been possible to do no more than hint at the fraudulent methods employed As a rule, the greater the rogue the quicker he is to take advantage of the libel law, and a suit won by such an individual is a marketable commodity of which he is not slow to take advantage Hence the need of caution and circumspection in exposing any kind of fraud, and especially any connected with the "patent" and proprietary medicine business, if we wish to further, rather than to injure the cause we espouse

Medical News

ALABAMA

Demopolis to Have a Hospital—The physicians of Demopolis are planning the erection of a hospital, an institution greatly needed in that locality

Epidemic Diseases.—Measles is reported to be epidemic in Crenshaw County and in Jonesboro——Several cases of small pox are reported near Haw Ridge Ozark and Daleville

Society Organized.—The physicians of Avondale on February 21 organized the Avondale Medical Society and elected Dr Henry L Martin president, Dr Emory A Morris, vice president and Dr Julius B Cooper, secretary treasurer

Personal.—Dr James I Odom Ensley, was thrown from his buggy in a runaway accident February 10, and seriously injured——The house of Dr J N Stathum, physician at Swansea Mines was burned February 1, with a loss of $5 000——Dr Edward H Sholl, Birmingham, has been elected chairman, and Dr Frank A Lupton, Birmingham secretary, of the committee of health of Jefferson County——Dr Harry T Lay, Montgomery, has been elected physician of Montgomery County, vice Dr Charles T Pollard

CALIFORNIA.

Insufficient Evidence—Wilhelmina Wegener, San Francisco, accused of having performed a criminal operation which caused the death of Edna Needham, January 1, was acquitted February 19 on account of insufficient evidence

Illegal Practitioners Fined—T Kurahara, a Japanese, charged with the illegal practice of medicine at San José, is said to have pleaded guilty and to have been fined $100, February 11——N Hadjii, Los Angeles, who was recently arrested for selling "patent medicines," is said to have pleaded guilty and to have been fined $40——A Hindoo mind reader of Los Angeles is said to have been fined $100 February 3 for practicing medicine without a license

Deaths and Diseases—During January 2,020 deaths were reported in the state, equivalent to an annual death rate of 17 1 per 1,000 Of these 486, or 16 7 per cent, were from pneumonia and other forms of respiratory diseases, 446, or 15 3 per cent, from tuberculosis, and 397, or 13 6 per cent, from diseases of the circulatory system The leading epidemic diseases during the month were diphtheria, which caused 48 deaths, typhoid fever, 37, influenza, 27, and scarlet fever and whooping cough, each 10

Personal.—Owing to press of business Dr Norman Bridge, Los Angeles has resigned from the Esperanza Sanatorium, Altadena——Dr Julian L Waller San Francisco, has started for Vienna——Dr Charles C Miller, Boulder Creek, has been critically ill with ptomain poisoning——Dr D C Strong, San Bernardino who was recently operated on for appendicitis, is gaining rapidly, and was brought to his home February 21——Dr Charles A Dukes, a member of the board of health of Oakland, was arrested February 11 for violating the speed law while making a professional call, but judgment was suspended——Dr Burt B Lamkin, Fresno, has been appointed to fill the vacancy in the board of health caused by the resignation of Dr Philip N Russell——Dr David W Edelman, Los Angeles, has been elected chairman of the civil service board

Society Meetings.—At the annual meeting of the Ventura County Medical Society Dr Charles Teubner, Saticoy, was re elected president, Dr George N Stockwell, Ventura, vice president, and Dr John C Bynum, Ventura, secretary——At the annual meeting of the Alameda County Medical Society Dr Ernest M Keyes Alameda, was elected president, Dr Lemuel P Adams, Oakland, vice president, Dr Mark L Emerson, Oakland, secretary, and Dr Charles A Dukes, Oakland, treasurer——At the annual meeting of the Humboldt County Medical Society, held at Sequoia Tavern, January 21, Dr Henry S Delamere, Ferndale, was elected president, Dr Curtis O Falk, Eureka, vice president Dr John N Chain, Eureka, treasurer, and Dr John H Mallery, Eureka, secretary (re-elected)——The Mendocino County Medical Society has elected Dr Edward W King, Talmage, president

Hospital News—The new San José Hospital is nearing completion It has been erected on the site of the old building which was destroyed during the earthquake, and consists of a main building with three wings, the south wing is to be given up to medical cases and the north wing is to be devoted to surgical cases The center wing contains three large dining rooms, a kitchen and quarters for attendants In the main section are the reception rooms, offices, a small operating room, etc.——By the gift of Mrs Whitelaw Reid a maternity ward is being added to the Red Cross Guild Hospital San Mateo——The Japanese Hospital Association San José has been incorporated with a capital stock of $10 000, to "own, manage conduct and carry on a hospital for the care of Japanese patients, and to own, conduct and carry on a general hospital business"——The Del Norte Hospital Association has been incorporated with a capital stock of $35,000, to erect a hospital in Crescent City——Mrs and Miss Fowler, widow and daughter of the late Eldridge M Fowler have given $40 000 to the Pasadena Hospital to be used for the erection of an additional wing, to be known as the Eldridge M. Fowler memorial wing

1 Pharm. Jour., London Jan. 25 1908 116

Original Articles

INDIA'S DEBT TO MEDICAL RESEARCH, BEING THE PRESIDENTIAL ADDRESS DELIVERED TO THE MEDICAL RESEARCH SECTION, INDIAN SCIENCE CONGRESS, 1922

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MAJOR I.M.S.,

Director King Institute, Guindy, Madras

It is my pleasing duty as President to welcome you to this, the Fourth Meeting of the Medical Research Section of the Indian Science Congress To our guest Dr Kendrick, I would like to extend a special welcome in your name The presence in our midst of a representative of the Rockefeller Institute, that great Institution which has done so much for medical research, is an honour which we all of us appreciate

The subject of my discourse, 'India's Debt to Medical Research,' has almost, one might say, been chosen for me My distinguished predecessors in office have already dealt so fully with the present and future problems connected with medical research in this country, that they have left little or nothing on this subject to which I can profitably add It is natural, therefore, that I should turn to the past for inspiration It so happens however, that the present time is particularly suitable for a careful consideration of our obligations to the past Great changes are taking place around us India is passing through a very definite and important metamorphosis, the results of which are bound to have far-reaching effects on every branch of thought in the country The responsibility for her progress in medical science has now devolved upon her people, and her future progress will greatly depend upon the attitude adopted by her political leaders

Science should have no politics, but the scientific communities cannot fail to be influenced by the great changes which are going on around them It is fitting, therefore, that we should review our progress up to the present, before we set out on the new road which stretches away before us into the future

In considering the remarkable progress made by the world during the past century, one is forcibly struck by the comparatively unimportant position assigned to medical science in the popular mind Ask the average man what he knows about the development of any outstanding mechanical invention, and he will almost certainly give a fairly accurate account of the steps which have led to its actual discovery When asked a similar question dealing with medical science he will, in most cases, plead ignorance and frequently show a complete lack of interest in the subject It is not too much to say that the ordinary individual knows little or nothing of the development of modern medicine, nor does he realise his indebtedness to the research worker for the comparative freedom from disease which he now enjoys India is no exception to the rule The majority of her people are not yet in a position to appreciate the most elementary principles upon which modern medicine has been built, while her educated classes, in common with the rest of the world, are more concerned with a host of other interests Yet, as Osler says, "in little more than a century a united profession working in many lands, has done more for the race than has ever before been accomplished by any other body of men So great have been these gifts that we have almost lost our appreciation of them The cause for this apparent indifference is not difficult to find In most cases the advances in medical science have been so gradually introduced, that they have almost escaped the notice of the people who have chiefly benefited by them We take the least heed of those things with which we are in constant contact It is only by looking back into the past and contrasting the medical conditions which prevailed at that time with those of the present day, that we are able to measure the progress which has been made"

In the early days of the British connection with India, western medicine was just beginning to shake itself free from the various theories which had dominated it since the dark ages The desire for truth, founded upon observation, was beginning to make itself felt The example of such men as John Hunter and his pupils had acted as leaven, and had stimulated in the younger generation a desire for personal investigation into the morbid processes of disease The views of Bichat, which placed the seat of disease in the tissues themselves as opposed to the organs, had not yet gained universal credence, and the nervous system was still regarded as the controlling factor in the various manifestations of disease The clinical medicine of the time was comparatively simple The arts of auscultation and percussion, recently discovered, had not yet come into general use The fevers, with the exception of malaria and those which showed the characteristic eruptions, were as yet undifferentiated and included many diseases now known to have an entirely different etiology Thus cholera was considered primarily a disease of the nervous system One early writer indeed refers to concussion of the brain as the *lethi fabricator* of the disease, the purging and vomiting being regarded merely as sanitary processes

From the point of view of treatment all diseases belonged to one of two types the sthenic and asthenic It was only necessary for the physician to make up his mind, which of the two he had to deal with to apply the treat-

fecting bureau of the Health Department, is said to be seriously ill at the Mercy Hospital

Personal Injury Suits—The district council and city attorney have brought to light what they consider a conspiracy to defraud the city by bringing personal injury suits They state that of six physicians in the Maxwell Street district, one has testified 23 times in such suits and has been interested in 17 other suits, another has testified 11 times, and has been interested in 11 similar suits, a third has testified 8 times and is interested in 10 other suits, a fourth has testified 13 times and has been interested in 11 suits, a fifth has testified 12 times and has been interested in 11 suits, a sixth has testified 16 times and is interested in 8 suits—a record which they think speaks for itself

Hospital Notes—The stockholders of the Lake View Hospital have decided to dissolve the corporation, and a new corporation will be organized——A new ward for the exclusive care of children was opened at the Chicago Baptist Hospital, February 22——The following is announced as the reorganized staff of St Joseph's Hospital Chief of staff and surgical department, Dr John B Murphy, associate chief, Dr C Hugh McKenna, consulting staff, Drs Charles Adams, George W Reynolds, George F Parsons, Ludwig H. Abele, Vaclav H Pod *stata and Charles J Whalen, attending surgeons, Drs John B* Murphy, Carl Wagner, C Hugh McKenna and William N Senn, associate surgeons, Drs John P Grimes, W J Swift, Arthur M Butzow and Henry Wagner, chief of medical department, Dr Robert B Preble, attending physicians, Drs Plumer M Woodworth, John W O'Neill, Arthur A. Small, Thomas J O'Malley and Julien E. Hequembourg, chief of gynecologic department, Dr J Clarence Webster, attending gynecologist, Dr William M Thompson, associate gynecologists, Drs William B Fehring and Philip S Doane, obstetrician, Dr Frank W Lynch, oculist, Drs George W Mahoney, associate oculist, Dr P J H. Farrell, nose and throat, Drs Jacques Hollinger and G Paull Marquis, neurologists Drs Daniel R Brower and Hugh T Patrick, associate neurologist, Dr Daniel R. Brower, Jr, pediatrician Dr Phillip S Chancillor, and pathologist, Dr David J Davis

KANSAS

Smallpox.—A number of smallpox cases were reported recently in Kansas City Diligent quarantine is being enforced, and all precautions are being taken by the board of health to check the progress of the disease——The schools of Medicine Lodge have been closed on account of the prevalence of smallpox——Influenza is reported to be epidemic at Paola.

Personal.—Dr C B Stemen, Kansas City, formerly of Fort Wayne, Ind, has been appointed local surgeon for the Missouri Pacific Railroad——Dr A J Lind, Kansas City, is recovering from a severe attack of diphtheria, during which it was necessary to administer more than 100,000 units of antitoxin——Dr Harry T Salisbury, Burlington, has been appointed physician of Coffey County, vice Dr Verbinia McMullen resigned.——Dr Harley J Stacey, Leavenworth is reported to be seriously ill with septicemia——Dr Levi Horner, Wichita, has been appointed physician of Sedgwick County

Society Meetings.—At the annual meeting of the Northeast Kansas Medical Society, held in Kansas City, February 13, Dr Clarence C Goddard, Leavenworth, was elected president, Dr C B Stemen, Kansas City, vice president, and Drs Harry L Chambers, Lecompton, secretary The next meeting of the society will be held in Atchison in October——At a recent meeting of the Crawford County Medical Society, held in Pittsburg Dr Herman H. Bogle was elected president, Dr Charles Chapin, Frontenac, vice president, Dr Amelia A Dickinson Pittsburg, secretary treasurer, and Dr Hugh B Caffey, Pittsburg delegate to the state society

KENTUCKY

Library Donated—The medical library of the late Dr Peter Gunlerman, Louisville, has been donated to the Jefferson County Medical Library

Loses Suit.—Moses Webster, Louisville, lost his suit against the State Board of Health, in which he sought by mandamus to force the board to issue him a license to practice medicine without an examination

Tuberculosis Hospital.—The committee on charitable institutions of the legislature has endorsed the bill appropriating $75 000 for the erection of a tuberculosis hospital and $30,000 annually for its maintenance

Communicable Diseases.—Somerset is reported to have epidemics of measles, mumps, scarlet fever and whooping cough. ——Thus far 3 deaths have occurred from cerebrospinal meningitis at Berea College, and no further cases have been reported——Influenza is reported to be epidemic at Fulton, Glasgow, Frankfort and Adairville——Measles in severe form is reported to be prevalent near Glasgow and in Newport——There are six cases of smallpox at Frankfort

Board Wants Larger Appropriation—The biennial report of the State Board of Health, submitted by the secretary, Dr J N McCormack, Bowling Green, February 19, deprecates the absence of a system of vital statistics, but states that reports from information voluntarily furnished by physicians throughout the state show that during the average year there are in the state 11,979 cases of tuberculosis, with 6 438 deaths, 22,512 cases of typhoid fever, with 1,683 deaths, 16,317 cases of diarrheal diseases, and 1,835 deaths, 5,181 cases of diphtheria, with 1,068 deaths, and 22,283 cases of scarlet fever, with 933 deaths, a total of 79,532 cases of preventable diseases, with 12,116 deaths

Personal.—Drs Julian T McClymonds, Joseph A Stucky, Charles W Norris and John W Scott have been named as the board of trustees of the Good Samaritan Hospital, Lexington, and Dr Josephine Hunt has been elected a member of the staff——Dr W Guy Eckman has been elected jail physician of Covington——Dr Charles H Brothers has been reelected a member of the Paducah Board of Health——Dr Frank Boyd, Paducah, was appointed by the governor, on February 24, surgeon general of the Kentucky State Guard, with the rank of colonel——Dr N N Hillor has succeeded Dr F R. Earle as house physician of the Illinois Central Hospital, Paducah——Dr Ernest Bradley, Lexington, has been elected city bacteriologist

Society Meetings—At the annual meeting of the Bourbon County Medical Society, held in Paris recently, the following officers were elected President, Dr Frank M Faries, Paris, vice presidents, Drs J Stuart Wallingford and John T Brown, Paris, secretary treasurer, Dr Charles G Daugherty, Paris, assistant secretary treasurer, Dr Frank L Lapsley, Paris, and censors Drs William Kenney, Paris, E A Cram, Centerville, and John O Gilkey, Paris——At the annual meeting of the McCracken County Medical Society, held January 2 at Paducah, the following officers were elected President, Dr Frank V Kimbrough, Maxon Mills, vice president Dr Louis E Young, Paducah, secretary, Dr James T Reddick, treasurer, Dr Ezias R Earle, Paducah, delegate to the Kentucky State Medical Association, Dr Henry G Reynolds, Paducah, and censor, Dr Randolph C Gore Lone Oak——At the annual meeting of the Carroll County Medical Society, held at Carrollton, January 16, the following officers were elected Dr J B Darbro, Eagle, president, Dr W B Messink, Worthville, vice president, and Dr Frank M Gaines, Carrollton, secretary treasurer, and Dr P Vernon Ellis, Ghent, delegate to the state society——At the annual meeting of the Barren County Medical Society, Dr James M Taylor Glasgow, was elected president, and Dr Roscoe S Plumlee, Glasgow, secretary——Dr Samuel M Stedman, Versailles, was elected president and Dr John W Crenshaw, Versailles, secretary of the Woodford County Medical Society, at its annual meeting held January 10——At the annual meeting of the Warren County Medical Society, held January 16, the following officers were elected President Dr Thomas W Stone, Bowling Green, vice president Dr Edward J Keon, Woodburn secretary treasurer, Dr Lillian H. South, Bowling Green, delegate to the State Society, Dr Eldon N Hall, Woodburn and censor, Dr Walter H McCracken, Bowling Green——The Kentucky Midland Society, at its forty eighth annual meeting, held in Midway, January 10, elected the following officers President, Dr Nevil M Garrett, Frankfort, vice president, Dr Josephus Martin, Cynthiana and secretary treasurer, Dr George P Sprague, Lexington Georgetown was chosen as the next place of meeting——At the annual meeting of the Falls City Medical Association, an organization of colored physicians of Louisville, January 14, the following officers were elected President, Dr Ellis D Whedbee vice president, Dr Richard W Oliver secretary, Dr A C McIntyre treasurer, Dr H B Beck, and corresponding secretary, Dr J A C Lattimore.

MARYLAND

Ask Appropriation for Hospital—A delegation of physicians and others appealed to the joint committee of finance and ways and means of the legislature, February 26 for an annual appropriation of $8 000 for two years for the Cambridge Hospital and also a further appropriation of $4,000 to pay off a mortgage on the institution

names of Pasteur, Koch and Cohn Preventive medicine was but "a blundering science," until the establishment of the germ theory altered its whole outlook and gave a new direction to its energies From small beginnings it has rapidly grown as new facts have been established, until at the present day it rivals in importance the curative side, and is by many looked upon as the medicine of the future The recognition of the all-important part played by micro-organisms in the causation of disease has perhaps had a greater influence upon the development of tropical medicine than any other branch of medical science What at one time was the province of the doctor alone has now to a great extent become the province of the medical zoologist In addition to bacteriology, protozoology, helminthology and entomology each a separate science in itself, are now considered indispensable for the student of tropical medicine The part played by the insect world in the transmission of disease, first demonstrated in the tropics, forms the most important contribution of tropical medicine to medical science in general, and one which has had a profound influence upon our methods of disease control Through the labours of a host of tropical workers we now know the causes of the majority of the common tropical diseases and the means by which they are transmitted In intricacy of development and in the wonderful ingenuity displayed in their passage from host to host, the life stories of certain of these parasites may well be compared with the romantic descriptions of insect life left us by the great naturalist, Henri Fabre. The geographical distribution of tropical disease is now known to be largely a question of indigenous insect *fauna*, and its seasonal prevalence is probably governed by the necessity for certain meteorological conditions which must be present before the life cycle in the insect host can be completed Thus the old Hippocratic theory of the causation of disease has received indirect support from the results of modern research

The deficiency diseases, which came into such prominence in Europe during the war, have long been recognised in the tropics Workers in the East have frequently referred to the shortcomings of the eastern dietary and its probable connection with liability to disease A correct appreciation of these facts is most important in countries where the majority of the population live in the "twilight zone"

Modern treatment is also the outcome of experimental investigation Polypharmacy has fallen into disrepute and has been replaced by the belief in a few well-tried drugs, the efficacy of which has been proved by experiment The search for specific parasiticides has been a prominent feature of pharmacological research, the older specifics of the vegetable world have been subjected to chemical analysis and have in many cases yielded their active principles Medicine has not hesitated to apply to her own use the advances in other sciences Electricity, X-rays and Radium are now recognised methods of treatment No better illustration of the complete subversion of the older methods can be given than the modern hypertonic saline treatment of cholera, which has replaced the recognised method of a century ago, exemplified by the following old prescription —

"Mittitor Sanguis E Brachio Magno
Orificio, Adde Uncias Triginta Aut
Usque Ad Syncopen"

The prominent part which has been played by workers in India in this marvellous development has been the subject of a graceful tribute by Sir William Osler Speaking of medicine in Greater Britain, he says —"Quickly there arises the memory of the men who have done so much for British medicine in that great Empire Far from their homes, far from congenial surroundings, and far from the stimulus of scientific influences, Annesley, Ballingall, Twining Morehead, Waring, Parkes, Cunningham Lewis, Vandyke Carter and many others have upheld the traditions of Harvey and of Sydenham On the great epidemic diseases how impoverished would our literature be in the absence of their contributions!"

What India owes to medical research can be inferred to a great extent from the contrast which I have just drawn, many of the gifts she has received in common with the rest of the world They are none the less valuable for this, nor are they less freely offered, for science makes no distinction between race, creed or class Applied to the relief of the multitudes striken by disease or accident, modern medicine has brought about a reduction in suffering and misery undreamed of by a people which for ages has sat in darkness and in the shadow of death

In the realms of disease prevention, if the results are less tangible, they have infinitely greater possibilities We can point to the tremendous decrease in mortality which has followed the introduction of measures based upon the results of investigation Especially is this the case in the controlled populations, such as are found in the army and the jails We can point to the close relationship which exists between disease prevention and the economic factor, a subject which up to the present has received but little attention in this country

The greatest triumph of medical science, however, is the complete change in our attitude towards disease The feeling of despair has changed to one of confidence and hope The medical profession can now claim to control many of the devastating epidemics which previously held the world in fear Science

pared to make tests of urine, blood, sputa, milk, gastric contents, feces, etc. Owen C. Farley is manager, Dr. Warren P. Elmer is in charge of the clinical department, and Dr. R. L. Thompson of the pathologic department.

Medical History Club.—The St. Louis Medical History Club, *organized a little more than a year ago, is already exerting a* powerful influence on the profession. As a whole the medical profession of the city has developed an interest in local and general medical history and realizes that improvements are being made in the city from day to day, and that valuable data must be preserved for the good of the profession.

Antituberculosis Society.—The St. Louis Society for the *Relief and Prevention of Tuberculosis is carrying on an ex*treme campaign of education and relief. A series of lectures to school children and adults has been in progress in the crowded sections of the city for several months, practical exhibits are attracting crowds to show windows in the business section of the city and the benefits of the work are beginning to be apparent.

Social Meetings of Medical Society.—*The St. Louis Medical* Society of Missouri has so arranged its program as to make the fifth Saturday afternoon of every month having five Saturdays, a special or social meeting. On February 29 the members were guests of the president, Dr. Herman Tuholske, at whose invitation Dr. Chas. C. Guthrie of the Washington University Medical School read a paper on "Some Practical Aspects of the Physiology of Circulation," bringing out the possibility of re-establishment of heart action after a period of suspension otherwise permanent. Illustrative demonstrations were made by Professor Guthrie and members of his class. After the close of the scientific talks refreshments were served by the ladies of the society and the wives of the members.

NEBRASKA.

To Build Tuberculosis Ward.—The commissioners of Douglas County have let the contract for a tuberculosis ward at the county hospital, to cost $41,085.

Senn Resolutions.—At its last meeting the Hall County *Medical Society adopted resolutions of sorrow and regret at* the untimely death of Dr. Nicholas Senn.

Personal.—Dr. George M. Mills has been appointed city physician of Kearney.——Dr. William H. Slattery, city physician of Lincoln, slipped and fell on a slippery sidewalk, February 7, sustaining a severe sprain of the ankle.

Hospital Notes.—A building permit has been granted for the new Immanuel Hospital *Omaha, to cost $25,000.*——*The 34* patients at the Emergency Hospital, Omaha, have signed a statement declaring false the statements recently made assailing the conduct of the hospital. They unqualifiedly commend the hospital and its management.——The Clarkson Memorial Hospital Association announces *that the women of the asso*ciation have already paid in $2 000 of the $13 000 pledged by them for the hospital fund.

Communicable Diseases.—The Board of Education of Omaha has instructed principals and teachers to refuse admission to schools of any children who have not been vaccinated within seven years.——Two new cases of smallpox were reported to the authorities at *Lincoln February 10, one of the patients* was a student in the medical school.——At North Bend, 36 cases of smallpox were reported and a strict quarantine has been established.——During January, 152 cases of smallpox were reported in Omaha, and 75 cases during the first 23 days of February.

Annual Death Report of the State.—The State Board of Health in its annual report gives the number of deaths for 1907 as 97 037. Of these, 7,459 were *American born and* 2,278 foreign born. 5 331 male and 4 406 female, 9 610 white and 127 colored. *Chief among death causes were Infantile* diseases 2,266, heart diseases 748, tuberculosis, 579, pneumonia 570, senile debility 569, accidents 501, cancer, 442, nephritis 299, cerebral hemorrhage 291, paresis 222, typhoid fever, 154, suicide 111, diphtheria 110, measles 49, scarlet fever and whooping cough, each 24, and erysipelas, 21.

Medical Society Meetings.—At the annual meeting of the Lancaster County Medical Society Dr. Herbert H. Waite was elected president, Dr. Frank F. Malone vice president and Dr. J. Stanley Welch secretary treasurer all of Lincoln.——At the annual meeting of the Elkhorn Valley Medical Association held in Norfolk, January 14, the following officers were elected: President, Dr. William H. H. Hager, Norfolk; vice presidents, Drs. Archibald L. Muirhead, Omaha, and A. B. Tashjean, Norfolk; secretary, Dr. William R. Peters, Stanton, and treasurer, Dr. Walter H. Pilger, Norfolk.——Dr. Alexander S. von Mansfelde, Ashland, has been elected chairman, and Dr. Charles O. Giese, Holdrege, treasurer of the Nebraska Association for the Study and Prevention of Tuberculosis.

NEW YORK.

Typhoid Fever.—Typhoid fever is reported to be prevalent in Peekskill, where 117 *cases have been reported, with 9 deaths.*

Hospital Enlarged.—The new service wing of the Nassau *Hospital was opened February 22, and the opening exercises* were made a society function for the friends of the hospital and the physicians of Nassau and Suffolk counties.

To Relieve Congestion of Insane.—Dr. Albert W. Ferris, president of the state lunacy commission, has made a trip to Albany to confer with the governor in regard to the overcrowding of the Manhattan State Hospital, Ward's Island, and it is expected that definite plans for the relief of the congestion will soon be announced.

Proceedings Discontinued.—*The charges instituted against* J. C. Von Spiegel, Rome, charged with practicing medicine without a license, with practicing under one name while registered under another, and with using the so called "Hindoo healer" treatment were withdrawn by the Medical Society of Oneida County, under the agreement of the accused to discontinue the practice of medicine and the method of treatment complained of in the county. Similar action is said to have been taken against Von Spiegel's partner, S. M. Ismail, a so called "Hindoo healer."

New York City

Smallpox.—Three cases of smallpox are reported from Manhattan Queens Borough, and the patients have been removed to the Kingston Avenue Hospital for Contagious Diseases.

Harvey Lecture.—The eighth lecture in the Harvey course by Prof. Ross G. Harrison, Yale University, at the New York Academy of Medicine, Saturday, *March 7, at 8 30 p. m., is on* "Embryonic Transplantation and the Development of the Nervous System."

Death Rate Drops.—The death rate for the week ended February 22 dropped to 17.45 per 1,000, as compared with the rate 20.34 for the corresponding week of last year. The deaths from heart disease were only 157, as against 175 for last year. *The mortality from pneumonia was 276, and for the* corresponding week of last year 297.

Contagious Diseases.—*There were reported to the sanitary* bureau for the week ended February 22, 388 cases of tuberculosis with 201 deaths, 371 cases of diphtheria, with 45 deaths; 1 252 cases of measles, with 26 deaths; 797 cases of scarlet fever with 39 deaths; 33 cases of typhoid fever, with 4 deaths, 9 cases of whooping cough, with 1 death, 10 *cases of cerebro* spinal meningitis, with 9 deaths, and 133 cases of varicella, a total of 2,093 cases and 325 deaths.

Lectures at Skin and Cancer Hospital.—The New York Skin and Cancer Hospital announces that lectures free to the medical profession, will be given in the out patient hall of the institution on Wednesday afternoons at 4:15 by Dr. L. Duncan Bulkley on "Pathology, in Its Practical Bearings on the Treatment of Certain Diseases of the Skin," March 4, and also clinical lectures on diseases of the skin until April 15, and Dr. *William Seaman Bainbridge on "Treatment of Unremovable* Cancer," with exhibition of cases, April 22.

Personal.—The house of Dr. Edwin T. Randall, Brooklyn, was robbed of jewelry and silverware valued at $1,500, February 20.——The suit of Spiro Coundres against Dr. Andrew R. Robinson for $10 000 *damages for alleged injuries received by* the *x* ray was decided in favor of Dr. Robinson February 21.——Dr. James M. Hill, surgeon in charge of the emergency hospital at the Pennsylvania tunnel, Long Island City, was attacked by a negro workman February 21, and stabbed in the left hand.

Anti Noise Society Meets.—The Society for the Suppression *of Unnecessary Noises has just held its first annual meeting.* There are representatives on the directorate from 59 hospitals containing 18 018 beds. The work planned is to have the hospital streets and the harbor patrolled by special policemen. The board of education has endorsed the movement for the organization of a children's hospital branch, which proposes to pledge the children to make as little noise as possible in the neighborhood of hospitals. Samuel L. Clemens has agreed to be the president of this branch. Where notices have been posted near hospitals the noise has notably decreased.

are then centrifugalised, having been added together The supernatant liquid is run off, and the deposit, after adding sufficient saline to make an emulsion for manipulation, is used for investigation We have found preliminary heating for half an hour at 80°C advantageous in reducing the number of the extraneous bacteria other than anthrax A portion of the emulsion is made up into a series of dilutions and a measured quantity of each dilution used A series of six decimal dilutions we have found workable One c c of the original emulsion is put into 9 c c of sterile saline and thoroughly shaken One c c of this is transferred to 9 c c of saline in another test tube, and so on Cultures are then made on agar direct, without any previous enrichment in broth Half a c c of each dilution is put into six petri's dishes, and liquefied agar cooled to 45°-50°C is poured into each dish and thoroughly mixed by gentle manipulation Enough agar must be poured into each dish to give a depth of agar of about nearly ¼ inch The growth of spreading surface colonies must be prevented by allowing the agar to dry thoroughly before the covers are replaced It has been advised to cover the set agar with a thin layer of fresh agar We have found, however, that this interferes with the extraction of single colonies after cultivation Where the patient's used brush is the only one available, the brush bristles are cut right down to the stump with an aseptic razor, the surface of the cut stump is then thoroughly cauterised, likewise the rest of the mount The bristles are then carefully dissected out of stump with sterile implements and put into a sterile mortar, and an emulsion made in the same way as in the case of the unused brush The plates are cultivated, and in the successful ones the colonies are discrete The deep colonies are examined and the typical woolly colonies of anthrax looked for At this stage of the examination if surface plates were made, the probable result would be a growth of spreaders on the plates with overgrowth of any discrete anthrax colonies present Deep colonies therefore are aimed at Suspicious colonies are removed *en bloc* to a little sterile saline and then slides are prepared and examined If the microscopical appearances are typical a guinea-pig is injected with the emulsion of the colony Should the organism be anthrax the guinea-pig will die within two days and the typical appearances of anthrax poisoning be manifest, *viz*, a gelatinous œdema extending from the site of inoculation, dark fluid blood, and congested organs The injection should be hypodermic, into the subcutaneous tissues of the leg If the animal dies the organism is found in pure culture in the heart blood, or the liver, or spleen These organs may be opened over seared patches and agar plates prepared by glass spreaders Single colonies thus obtained are of course typical Slides made from the heart blood should give the characteristic pink capsular stain with old (polychrome) methylene blue, (the so-called Macfadyen reaction) No organism thus isolated, however typical in culture, should be pronounced anthrax without the pathogenicity test in the guinea-pig or mouse If no typical or suspicious colonies are isolated in agar cultures a guinea-pig is inoculated hypodermically with about 1 c c of the original emulsion If the animal dies of anthrax the diagnosis is confirmed by obtaining from its blood the characteristic organism and colonies in agar If there are only a few anthrax spores in the emulsion it may take several days for the fatal anthrax to be produced. The mouse is more susceptible than the guinea-pig, so that in cases where there are few spores or where those present are of low virulence, there are advantages in inoculating a mouse as well as a guinea-pig Sometimes the inoculated animal may die very quickly of an acute infection due to other organisms present In such cases careful search should be made in the tissues for the typical anthrax organisms In these cases also many plates should be made in the primary cultural tests

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MALIGNANT DISEASE OF THE RETAINED OR IMPERFECTLY DESCENDED TESTIS

By LT-COL F P CONNOR, D S O, F R C S, D T M and H, I M S

Medical College, Calcutta

(*Read at a meeting of the Medical Section of the Asiatic Society of Bengal on February 8th, 1922*)

IT is a well-known fact that retained or imperfectly descended testes are liable to various complicatons, such as inflammation, hydrocele, hernia, torsion of cord, dermoid cyst, malignant disease

It is only the last named condition, namely malignant disease, which I propose to discuss It is not generally conceded that imperfect migration of the testis especially predisposes that organ to malignant disease, but my experience in Calcutta certainly points to that conclusion Malignant disease of the testicle is quite rare in Bengal, but I have met with three cases of malignant new growth of the incompletely descended testis in the course of a few months Considering the number of irritative lesions which occurs in the tropics in connection with the scrotum and testis, *e g*, hydroceles, lymphangiectases, filarial thickenings, etc, it is curious that the liability to new growths is so small Even the enormous elephantoid tumours of the scrotum, exposed as they are to injuries and friction, often the seat of chronic eczema and discharging sinuses, seldom become involved in

cer, 18, meningitis, 4, apoplexy, 16, paralysis, 6, heart disease, 56, diseases of the arteries 8, acute respiratory diseases, 86, hernia, 4, enteritis, 17, cirrhosis of the liver, 6, Bright's disease, 45, premature birth, 10, congenital debility, 8, old age, 6, suicide, 4, accidents, 9, injuries at birth, 3, and marasmus, 3 There were 244 cases of contagious diseases reported, with 45 deaths, as compared with 341 cases and 47 deaths, reported in the preceding week

Elections.—The following officers have been chosen by the Wills Hospital Ophthalmic Society to serve during 1908 Chairman, Dr Samuel D Risley, vice chairman Dr William Campbell Posey, and secretary, Dr Burton Chance ——The officers of the Philadelphia Academy of Surgery for 1908 are President, Dr William J Taylor, vice presidents, Drs Robert G Le Conte and Gwelym G Davis, secretary, Dr John H Gibbon, treasurer, Dr James P Hutchinson, recorder, Dr John H. Jopson, and council, Drs W Joseph Hearn, Thomas R. Neilson and the president and secretary ——New officers for 1908 were elected as follows by the West Philadelphia Physicians' Business Association, at the February meeting President, Dr Christian B Longenecker, vice presidents, Drs William S Newcomet and Sherman F Gilpin, secretary Dr George C Shamino, corresponding secretary, Dr Paxson B Thatcher, and treasurer, Dr Evan J Hackney

VIRGINIA.

Tuberculosis Notes.—The tuberculosis exhibit of the Indiana State Board of Health has been loaned to the Richmond health department, and has been on exhibition in the city hall, where it has attracted much attention, and favorable comment.

License Tax Will Probably Stand.—The bill introduced in the legislature relieving the physicians of the state license tax has met with so much opposition and so many serious drawbacks, that it stands little chance of passage at this session of the legislature

Registration of Deaths.—The bill providing for the registration of deaths in the state has been withdrawn by its introducer, Senator Gravatt, on account of the opposition of the undertakers of the state whose organization was apparently far better than that of the advocates of the bill

Personal.—Dr W Levi Old, Norfolk, has been appointed chief surgeon of the Virginia Railway, with headquarters at Norfolk ——Dr J Harvey Laird, chairman of the board of health, and health officer of Lexington has resigned ——Dr Job G Holland, Holland, has been seriously ill on account of the accidental ingestion of 7½ grains of bichlorid of mercury ——Drs Julian M Robinson and Edward H Miller Jr, Danville, have opened a free dispensary for the poor of that city

Smallpox.—On February 11 the Circuit Court of Caroline County was adjourned on account of smallpox in the county, and the public schools in the affected districts were also ordered closed for thirty days ——The supervisors of Henrico County have decided to enforce compulsory vaccination on account of the prevalence of smallpox at Barton Heights a suburb of Richmond ——The health board of Stafford County has extended the smallpox quarantine from February 17 to March 2 ——Fifty cases of smallpox are reported in the northern part of King George County

State Board of Health Bill.—A bill has been introduced in the state legislature providing for the reorganization of the State Board of Health, and for an increased appropriation for its support. The board is increased in number from seven to twelve and the position of health commissioner and executive officer of the board is created The health commissioner is to receive a salary of $3,500, and in addition may appoint an assistant commissioner at a salary of $2,500 a bacteriologist at a salary of $2,500 and a clerk at a salary of $1,200 The bill has already passed the house committee on finances The present appropriation for the State Board of Health is only $4 000 a year, while the new bill carries an appropriation of $40 000

GENERAL

Fourth Congress of French-Speaking Physicians of North America.—The *Bulletin Medical de Quebec* announces that preparations are well under way for the fourth congress of French speaking physicians of America to convene at Quebec during the second week of August The city is to celebrate this summer the three hundredth anniversary of the founding of Quebec by Champlain so that the occasion will be a gala one in every respect The president of the congress Dr A Simard and the secretary Dr A Paquet cordially invite all French speaking physicians throughout North America to co operate with them to make the congress a success a worthy successor to its three predecessors The last was held at Trois Rivieres in 1906

FOREIGN

Bust of Purkinje Unveiled.—The Physiologic Institute at Breslau recently unveiled with due ceremony a marble bust of Purkinje, called the founder of experimental physiology in Germany

Lassar's Collection of Casts.—The famous collection of more than 2,000 dermatologic casts, owned by the late Professor Lassar, has been presented by his widow to the city of Hamburg, his native town The collection is to be installed in the St George Hospital

Memorial Endowment to Dr W Erb, Jr.—Professor Erb of Heidelberg has presented the university with 100 000 marks about $25,000, as an endowment in memory of his son who died a year ago at Strasburg The income of the endowment is to be applied to aid needy students and assistants and to promote scientific research among the students

Zurich Supplies Free Dentistry to the School Children.—We are informed that the city of Zurich has decided to organize a dental clinic for free examination and treatment of the teeth of the public school children It is to be in charge of a registered dentist on a salary of from $1,000 to $1 400 A similar dental clinic has been established at Charlottenburg, Germany

Advertising of Proprietaries in Russia.—We learn from our foreign exchanges that the ministry of the interior in Russia has appointed an official to supervise the advertisements of remedies in the lay press. A decree has also been issued recently forbidding advertising in any form to physicians and dentists Nothing can be published but the name, degree, address and specialty

Duckworth Lectures at Paris.—Sir Dyce Duckworth of London delivered by invitation of the University of Paris a lecture at the Paris Medical School, February 18 He spoke in French on "The Diatheses, the Personal Factor in Diseases" An occasional interchange of lecturers is one of the principal features of the recent efforts to promote closer relations between the universities of Paris and London.

Anthropometric and Anthropologic Census in Denmark.—Work has already been begun on a careful scientific census of all the inhabitants of Denmark It is in charge of H Laub, surgeon general, H. Westergaard, the statistician, and S Hansen the well known anthropologist Data are already being collected in certain small isolated districts, all the adults being registered with anthropometric and anthropologic descriptions

The "Electric Belt" in Italy.—Galli writes to the *Policlinico* of January 12, to relate the injury done by the lack of proper treatment in a case of diabetes and one of renal sclerosis with asthma, the victims having paid out $30 and $50 respectively for an "electric belt" which was advertised as a cure for such diseases. Valuable time and opportunity were wasted while the men were trying to get their money's worth out of the belts

Nicholas Senn's Travel Notes from South America.—The current issues of the *Cronica Medica* of Lima Peru, contain a translation in full of the late Dr Senn's "Travel Notes from South America" which are appearing in THE JOURNAL. Our Lima exchange comments that the notable series shows that "the illustrious surgeon was a remarkable writer as well as an impartial and just observer" The translation is entitled "La Profesion medica en Sud America"

New Laryngology and Rhinology Journal.—A number of prominent laryngologists and rhinologists of Europe and America are collaborators on the new *Zeitschrift für Laryngologie, Rhinologie und ihre Grenzgebiete,* to be published by Dr I Blumenfeld Taunusstrasse 4 Wiesbaden It is to be issued every two months The annual subscription will be 24 marks —about $6, and no copies will be sold separately

Prescription Stamp for Benevolent Purposes.—One of the Austrian provinces has introduced the innovation of allowing the medical profession to supply the druggists with stamps which are sold to the purchaser when a prescription is dispensed The stamp is bought by the purchaser and affixed to the prescription and the proceeds are to be applied to the fund for relief of widows and orphans of physicians There is no compulsion in regard to buying the stamp

Educational Circular for Mothers.—The German ministry of the interior has had a thousand copies of Dr Hackl's booklet, "Our Mother and Child," printed and distributed to the various communities to teach the advantages of breast feeding and

colic in the left side of the abdomen After a month the abdominal pain increased, and a secondary mass began to appear above the left clavicle and suffocating pains occurred in the chest X-ray treatment relieved these pains to some extent Further growths appeared in the left axilla and in the lower part of the abdomen

The patent's condition rapidly became worse and the legs began to swell particularly the left, which became numb Bedsores and cystitis added to his misery, and breathing finally became very difficult, and as his relative quaintly puts it "he died a natural death on 24-1-20'

It will not be necessary to describe in detail the second case which came under my care on 19-8-20 —

He was a Hindoo, aged 30— a contractor, resident in Calcutta The tumour was in the left inguinal canal and a history of four months' pain and swelling was given The previous diagnosis had been hernia and a truss had been worn, which had caused a great deal of pain

Both testes were undescended and the left was the seat of the disease The patient was married but had no children An oval tumour as large as a turkey's egg could be seen in the left inguinal canal

It was adherent to the floor of the canal, but the skin over it was free On palpation it was elastic and partly fluctuating The Wassermann's reaction was negative The patient complained of a good deal of pain and a feeling of tension

An operation was performed on 28-8-20, and the inguinal canal and the abdominal wall above the abdominal ring were opened up The tumour was found to be a malignant growth of the left testis with a small hydrocele in front The mass was attached by a mesentery-like fold

The cord was found to be involved in growth and was removed high up No other evidence of extension was discovered The wound healed by first intention

The microscopic report on this tumour was, "soft round-celled sarcoma" The patient was advised to have a second operation performed to explore and clear the lymphatic channels along the vena cava This was consented to and performed on 23-9-20

A long curved incision was made running along Poupart's ligament and then obliquely upwards towards the lower ribs The abdomen was opened extra-peritoneally and soft growth was discovered involving the peritoneum and sigmoid flexure All the growth found was removed with pieces of peritoneum, as high as the left kidney, and the wound was closed

The patient was discharged on 8th October, 1920

I was called in to see this man a few weeks later and found extensive recurrence in the abdominal cavity There was much pain and distress with constipation and œdema of the legs His death was reported to me soon after

The third case I shall refer to still more briefly As already mentioned it was a case of malignant disease of the right retained testicle The testis had never entered the inguinal canal on that side and was probably retained just within the internal abdominal ring This is only a speculation as on admission the patient already had a large mass occupying the right side of the hypogastric region A diagnosis of malignant disease of the right retained testis was made, and an explanatory operation was done partly to confirm the diagnosis, but also to relieve the agonizing feeling of "bursting," which the patient constantly complained of

A large breaking down malignant growth was discovered exactly resembling the growth in the previous cases Hæmorrhage was free The pathological report was, "small round-celled sarcoma"

The patient was much relieved by the operation, but the relief was short-lived and he died in hospital not long after

I would like to say a few words about the pathology of these cases They were all reported on as being soft sarcoma, but the prevailing opinion seems to be nowadays, as far as I can gather, that these growths are really one-sided developments of a teratoma and of the nature of embryonal carcinomata It is a very rapidly growing type of tumour, soft, opaque, and necrotic, probably starting in the rete and invading the testicular tissues and rapidly destroying them Necrosis occurs early at the centre of the tumour accompanied by hæmorrhage, and sections from this part very clearly resemble melanotic sarcoma—as was indeed the pathological report given of the metastatic abdominal growth removed in the second case

There is no reason why early operation should not effect a cure, but in none of these cases was this possible The patients came too late Bulkley collected fifty-seven cases of malignant disease of undescended tests, thirty on the right side and twenty-four on the left, two were bilateral, and the side of one was not noted These cases are described as large round-celled sarcomata The mortality is not mentioned They probably all died

It is a curious fact that the tendency to malignant disease appears to be absent in the case of ectopia of the testis, *i.e.*, in cases when the testis travels too far, rather than not far enough

I will not attempt to describe the various operations which have been performed for undescended testes One of the simplest of these, which gives good results is Hahn's method, in which the affected testis is brought

tion, physically, mentally and morally Smoking by young persons is dealt with in the bill, and the sale of cigarettes or of cigarette papers is prohibited to persons under 16 years of age, and it is made a punishable offense for such children to be found smoking in the streets Another important section of the bill is that relating to the protection of infant life Inspection of children put out to rear will be far more stringent than formerly, and it is proposed to legalize the state inspection of all charitable institutions and homes for destitute children.

Therapeutics

[It is the purpose of this department to outline an up-to date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters, that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses]

Ether and Chloroform Anesthesia.

An editorial in the *Medical Record*, Jan 18, 1908, comments on the danger of the medical profession believing that anesthesia from either of these drugs is absolutely harmless The ideal anesthetic has not yet been discovered or produced Ether and choloroform for all operations requiring any length of time seem to be the safest anesthetics yet offered. However, the investigations of B Mueller (*Archiv f klin Chir*, 1905, and *Deutsche med Wochschr*, Nov 8, 1907) seem to show that there is more or less irritation, and perhaps fatty degeneration of the internal organs of the body, especially the kidneys, after anesthesia from ether or chloroform The more prolonged the anesthesia, the more serious the consequences, and repeated anesthesias may leave a permanent trace, or perhaps lesion, from their action The disturbances occurring immediately after the patient comes out of the anesthetic must not be considered the only disturbances the anesthetic can cause The urine should be repeatedly examined for several months after the prolonged use of either chloroform or ether as an anesthetic.

In the *Medical Record* of the same date occurs a paper by Dr Reyburn, Washington, D C, on the "Prevention of Death During Chloroform or Ether Anesthesia" Dr Reyburn has had a vast personal experience with anesthetics, both in the Civil War and in private practice, and his recommendations for the prevention of serious symptoms during anesthesia and of the treatment of symptoms that may occur are very valuable

He believes that the smaller the amount of ether and chloroform administered, the less the danger, and toward this end as rapid an operation as is possible is of extreme importance To further the first object he believes in the drop by drop method for administration of both ether and chloroform

It would be well for every surgeon to remember the second recommendation Surgeons forget the secondary results of prolonged ether and chloroform narcosis as above described, and hence are often very deliberate in their preparation for and completion of an operation In hospitals a patient is often completely anesthetized not only moments, but long series of minutes before even being conveyed to the operating room or operating table Such prolonged anesthesia is inexcusable

Reyburn does not believe in hypodermic medication even with strychnin, atropin or a suprarenal preparation, believing that before such a substance can be absorbed in cardiac failure the patient is dead He believes that one of the causes of sudden failure of the heart and respiration is that the pressure of the blood in the superior vena cava is too great for the auricles to contract against Consequently, he thinks that the best treatment for such sudden heart failure and failure of respiration is to invert the patient, holding up the feet and legs, with the head down, in the prone position The next method of greatest importance is artificial respiration, and for this object he would have the patient in the same prone position He would also have a faradic battery ready at hand for instant use

Cardiac and respiratory stimulants may be valuable in failing heart and respiration to prevent such a dire occurrence, but such failure having occurred, there is no question that reliance on drugs, even administered intravenously, is useless, and that physical methods as Reyburn describes are the only therapeutic measures successful.

Gastric Neuroses

Dr W F Cheney of San Francisco, in the *American Journal of the Medical Sciences*, January, 1908, defines a gastric neurosis as a purely functional disorder of the stomach without discoverable organic change They are so called nervous dyspepsias, which are characterized by varying kinds of discomfort during the process of digestion There are various causes of this functional indigestion, but neurasthenia is the most frequent The most frequent reflex disturbances of the stomach come from the heart, the genital organs and the eye. Although Dr Cheney does not emphasize it, reflexes from the eye due to optic defects are a very frequent cause of gastric disturbances, and no patient with unexplained or inexcusable periodic gastric upsets should be treated for that condition without first having eyestrain ruled out

Cheney finds the most frequent age for nervous dyspepsia to occur is between 30 and 40, although no age is exempt. Out of 375 patients with this trouble he found 235 males and 140 females, this rather surprisingly showing that gastric neuroses are more frequent among men

He finds that the character of the food has a good deal to do with the cause of the indigestion, and subdivides the analysis of the food into its quality, its preparation, its mastication, and the conditions under which it is taken These causes would hardly seem to be neuroses, but straight instances of improper feeding with resulting indigestion

Cheney emphasizes the necessity for a very careful diagnosis before the indigestion is decided to be due to a neurosis, and the careful examination of the stomach contents after a test meal not only to eliminate organic disease, but to decide what particular line of treatment is needed, or what is functionally wrong with the stomach digestion

The prognosis depends on the correct decision that the dyspepsia is due to a neurosis only and whether or not the patient's manner of eating and manner of life can be changed, and whether or not the neurotic or reflex cause can be removed He subdivides the treatment under the following headings 1, The underlying neurasthenia, 2, the way food is taken, 3, the quality and quantity of the food, 4, drugs

1 This means a return to "the simple life," less stress, less strain, less hurry Excesses of all kinds should be prohibited, whether of study, business, society, household duties or sexual If such changes in the habits of an individual can not be effected, a cure will not take place. Of course, systematic rest, change of climate, change of scene, travel, outdoor exercise should any or all be advocated, if possible, especially if the condition has become chronic

2 The way food is taken is of great importance *The meals should be eaten slowly, without interruptions, and at regular*

toxic The toxic and vermicidal properties reside in the same active principle and are therefore inter-dependent It has no vermifugal properties and should therefore be followed by a purgative The optimum dose is different for every sample, and so far there is no accurate and simple method for determining it The results shown here were obtained with an oil which contained 66 per cent ascaridol Under the conditions there will always subsist an element of doubt as to the safety of the treatment which will necessitate hospital conditions

Thymol and betanaphthol are solid drugs of constant chemical composition not deteriorating with age and easily obtained in the pure state Their dosage is thus easy and certain They are very soon eliminated from the system, the danger of poisoning for the host being thus greatly diminished , and their quick disappearance from the intestine renders the after-purge and any restriction on the nature of food unnecessary Both are powerful vermicides acting both on *Ankylostomum* and *Necator* and have marked vermifugal properties Treatment with either of them may then be reduced to the simple ingestion of the drug in proper dosage The optimum dose for healthy adults was found to be 50 grains

TABLE I

Test treatment	Dosage	PERCENTAGE OF HOOKWORMS REMOVED WITH A TEST TREATMENT		
		A duodenale	N americanus	A duodenale and N americanus
Thymol—in *one* portion	50 grains	90 0	97·0	96 6
Betanaphthol—in *one* portion	50 grains	82 2	98·0	97 3
Oil of chenopodium—in *one* portion	32 minims	87 1	97 1	96 3
Chloroform—in *two* portions	45 minims	92 2	86·0	87 7

The comparative efficiency of the three drugs was next based on the percentage of cures obtained with one test treatment

The method we adopted for examination gave accurate results for 99 per cent of the samples examined , we nevertheless took the precautionary measures of basing our results on four thorough consecutive examinations—two consecutive days of two consecutive weeks,—the first examination being made on or after the 12th day of treatment

The results show that 67 6 and 71 9 per cent of cases are cured with one treatment of 50 grains of thymol and betanaphthol respectively, the drug being given in one dose without any purgatives

In the belief that an alkaline substance would aid their action by removing the mucus surrounding the worms and enabling the drug to reach them more easily, 25 grains of light magnesium carbonate were intimately mixed with 50 grains of the anthelmintic The percentage of cures rose to 71 4 in the case of thymol and to 76 0 in the case of betanaphthol

The comparative efficiency of thymol and betanapthol was further determined from the average number of treatments required to cure a group of infected persons A series of cases were treated with the same anthelmintic and by the same method of treatment—without purgatives—until cure followed The drugs were given in a single dose of 50 grains mixed with 25 grains of light magnesium carbonate The results were very nearly equal, 1 4 treatments (or 70 grains) of either drug being required on the average to effect a complete cure

This information is of value for the mass treatment of hookworm infection, when cost is an important factor to be considered

Another valuable finding was that in addition to its immediate vermicidal action, an anthelmintic also has a remote action which brings about delayed cures Betanaphthol was given once to two series of cases in doses of 30 and 50 grains

TABLE II

—	Betanaphthol 50 grains and magnesium carbonate 25 grains in one portion without purgatives			Thymol 50 grains and magnesium carbonate 25 grains in one portion without purgatives			Chenopodium oil 48 minims in two portions with an after purgative.		
	—		Percentage cures	—		Percentage cures	—		Percentage cures.
Cases treated	25			56			48		
cured with *one* treatment		19	76·0		40	71 4		25	52 1
" " *two* treatments		4	16·0		10	17 8		11	22 9
" " *three* treatments		1	4 0		5	8·9		6	12 5
" " *four* treatments		1	4 0		1	1 9		3	6·3
" *five* treatments								2	4 1
six treatments								1	2 1
Average number of treatments required to cure a case		1·36			1 41			1 91	

OATS AND PASSION FLOWERS

The first two ingredients are plants in whose therapeutic value but little confidence is placed, especially is this true of avena sativa, which is better known under the common, if less impressive name, oats The National Dispensatory merely details its botanical history and household uses while Lyons ("Plant Names," p 63) remarks that its therapeutic value is probably mythical But in spite of these known facts, the promoters of this nostrum make extravagant claims as to its therapeutic value, calling it "invaluable" and asserting that it "insures" perfect results

SOMNALGESINE—WHAT IS IT?

Somnalgesine the third constituent of Pas Avena, is a secret preparation, the chemical formula ($C_{20}H_{25}N_3O_3$) of which the manufacturers were kind enough to add But, to a chemist, such a formula is absurd and impossible, and is published either because of the manufacturer's ignorance of fundamental chemical laws, or with deliberate intent to deceive the profession A little later it was changed to $C_{30}H_{36}N_5O_3$, differing by eight hydrogen atoms from the original formula yet the substance bore the same name as before Probably the manufacturers realized that the formula was impossible and tried to build up one which would appear more plausible

THE INFLUENCE OF THE FOOD AND DRUGS ACT

When the Food and Drugs Act appeared, with its not unreasonable demand that the labels on foods and drugs should tell the truth, or at least cease to mislead the Pas Avena Co seems to have been frightened into printing labels conveying more information regarding the contents of the bottle At present, therefore, the label reads

Alcohol	8 37 per cent by volume
Antipyrine	16.00 grains per fluid ounce

Guaranteed under the Food and Drugs Act of June 30 1906

Substituting the word "Antipyrine" for "Somnalgesine" gives little additional information Chemists may recognize "Antipyrine" as a name given to a mixture said to be formed by the fusion of two molecules of antipyrin and one molecule of acetanilid but to physicians the word "Antipyrine" carries with it as much mystery as does "Somnalgesine" and so the label continues to be as non informing as ever

Because of the appearance on the same label of the guarantee under the Food and Drugs Act, many former doubters will take the preparation on faith with no further concern or thought and here, again, attention is called to the methods of the Pas Avena Chemical Co By publishing the guarantee under the pure food laws the company presumes to disperse all doubt and criticism assuming that the majority of physicians will be satisfied with the guarantee as it stands Inasmuch as the preparation contains acetanilid and antipyrin however, the manufacturers are disregarding that part of the Food and Drugs Act of June 30, 1906, which requires the name of the parent substance (in this case acetanilid and antipyrin) to accompany in parentheses, the trade name (Antipyrine)

The laws are so well defined that physicians appear to be satisfied to do nothing further, firmly believing that they are safe from the defrauding methods of unscrupulous manufacturers

SOMNOS

Composition and "Working Formula."

STAMFORD, CONN

To the Editor —Kindly give me the analysis of somnos I should like to know how much chloral hydrate it represents, or if, as stated on the bottle, it contains no free chloral about how much of that drug would be represented in an ounce of the preparation? J HOWARD STAUB M D

GREENVILLE OHIO

To the Editor —Will you give me the exact working formula for Mulford's somnos, how to get the color etc ?

B F METCALF, M D

ANSWER—According to the analysis made for the Council on Pharmacy and Chemistry (see THE JOURNAL, Sept 1, 1906 695, Sept 15, 1906, 863, 872, Sept 29, 1906 1033), the chloral strength of somnos was equivalent to a 5 per cent solution of hydrated chloral, or about 24 grains per fluid ounce. It was found to contain about 10 per cent of alcohol The label on a recent trade package of somnos states that it contains 25 grains of chloral glycerolate (which is equivalent to 23 grains of chloral hydrate) per fluid ounce, and alcohol, 2 per cent Its alcoholic strength, therefore, appears to have been changed It is, of course, impossible to give an exact "working formula" for such a preparation Exact duplication of mixtures such as somnos, especially as regards their color and flavor, is exceedingly difficult and not worth the effort, since the identical taste or color is unessential, unless it is intended to make the patient think he is taking the identical medicine which would certainly be unwise For a mixture containing the same amount of chloral as somnos, we suggest the prescribing of chloral hydrate in cinnamon or some other aromatic water, or in some syrup, such as syrup of wild cherry, using chloral hydrate, 24 grains, glycerin, 1 fluidram, and the water or syrup, enough to make one fluid ounce

Mistura Ferri Acida.

SLOAN, IOWA

To the Editor —The following formula is given by Stelwagon for the Mistura Ferri Acida

℞	gm or c.c.		
Magnesii sulphatis	32 48		℥i ss
Ferri sulphatis	26	or	gr iv
Acidi sulphurici dil	4		♏ℨ
Aquæ menthæ piperitæ	120		fℨiv

Sig A tablespoonful in a tumblerful of water about twenty minutes before breakfast

Croker gives the same formula ("Diseases of the Skin" third edition page 1435), except that he uses infusion of quassia for the peppermint water and calls it "Startin's Mixture" Van Harlingen ("Diseases of Skin" fourth edition, page 95), modifies it by adding one dram of sodium chlorid to the mixture

In cases of gastrointestinal fermentation with constipation in which I desire to use magnesium sulphate, but the above mixture is contraindicated on account of the dilute sulphuric acid, I have substituted for the dram of acid which the old mixture contains, three drams of sodium salicylate

The prescription then reads

℞	gm		
Ferri sulphatis	26		gr iv
Sodii salicylatis	15	or	ʒiii
Magnesii sulphatis	30		℥i
Aquæ menthæ	120		℥iv

M Sig A teaspoonful in a glass of water after meals.

The mixture is of a beautiful deep red color on account of the formation of the iron salicylate, and the taste of magnesium sulphate is nicely disguised In appearance taste and therapeutic value it forms a mixture that will compare favorably with any of the elixirs that are placed on the market by manufacturing pharmacists E D FREAR, M D

COMMENT —The name given to this mixture is inappropriate, since it does not indicate the ingredient on which its therapeutic activity depends The amount of iron contained in a dose is very small, amounting, according to Stelwagon's directions, to ½ grain (0 03) a day Dr Frear gives a somewhat smaller quantity The addition of sodium salicylate serves the purpose of imparting a red color, but it can not be expected to exert any power as an intestinal antiseptic because it is so rapidly absorbed This modification may be of service when sodium salicylate is indicated for its constitutional effect

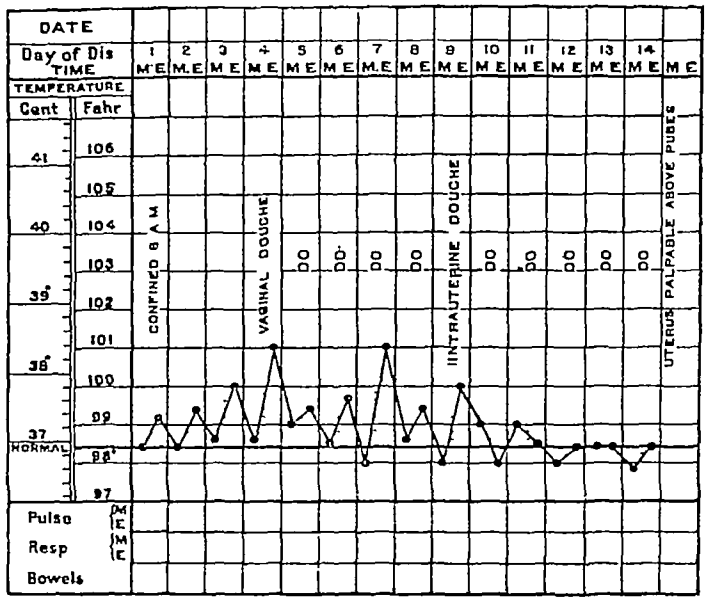
What Is Iodofan?

Within the last two or three years there has been placed on the German market a preparation known as iodofan It is manufactured by the *Chemisches Institut* Dr A Horowitz, Berlin As it is quite possible that in time the preparation will be offered to physicians in this country, the following is appropriate

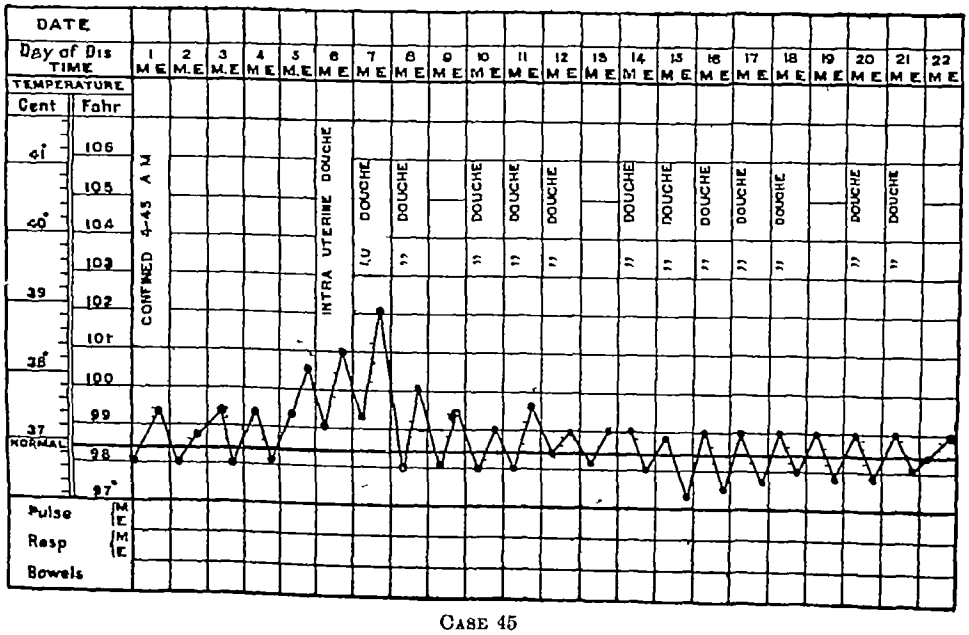
Iodofan according to the statements published by the manufacturers, is a chemical compound containing 47 7o per cent

CLINICAL OBSERVATIONS ON ADHESION AND RETENTION OF THE MEMBRANES

By W S WILLMORE, M B, M R C P, D T M & H,
Lieutenant-Colonel, I M S



Case 41



Case 45

Miscellany

SEEKS LICENSE BY FRAUD

Illinois State Board Secretary Exposes Fictitious Documents

We have received from Dr James A Egan, secretary of the Illinois State Board of Health, copies of correspondence and papers in the case of G B B Larkeque, who gives his present address as Coney Island, N Y The Illinois board received an application for a license to practice medicine in Illinois from "Dr" Larkeque, who based his application on a license issued by the Maine State Board of Registration He further stated that he had attended three full courses of lectures at the Homeopathic Medical College of Missouri during 1889, 1890 and 1891, and that he had taken his fourth year of medical work at the Cleveland University of Medicine and Surgery and was graduated from that institution as a doctor of medicine on March 25, 1893

Not finding the name of G B B Larkeque in the list of graduates of the Cleveland University of Medicine and Surgery, Dr Egan wrote to the Cleveland Homeopathic Medical College, the successor of the Cleveland University of Medicine and Surgery, and received a reply from the registrar stating that Garrett B B Larkeque graduated from the Cleveland University of Medicine and Surgery in March, 1893 To this letter Dr Egan replied, calling the attention of the registrar to the fact that the Cleveland University of Medicine and Surgery did not come into existence under that name until 1894, and that the name of G B B Larkeque was not given on any list of graduates of the school in question and asking for an explanation of these contradictory statements After waiting three weeks without receiving a reply Dr Egan wrote again and, receiving no reply by January 20 he addressed the dean of the Cleveland Homeopathic Medical College asking for the facts On January 31 he received a letter stating that his (Dr Egan's) letter had been referred to Dr Kimmel, secretary of the board of trustees and that after a careful investigation Dr Kimmel would give him all the facts in the case Dr Egan's endorsement on this letter reads "Nothing received from Dr Kimmel to date, 2/25/08"

A letter sent to the registrar of the Homeopathic Medical College of Missouri elicited an immediate reply to the effect that no one by the name of Garrett B B Larkeque had ever matriculated from that institution at least since 1883 A letter was then sent to the applicant requesting an explanation of these facts He replied enclosing the following certificate

Chartered 1857 *Re chartered 1897*

THE HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI
Cor Jefferson Ave and Howard St

ST LOUIS, Aug 12 1892

Dean Cleveland University of Medicine and Surgery
Gentlemen—This is to certify that Mr G B B Larkeque has attended THREE FULL COURSES of ctures at the HOMEOPATHIC MEDICAL COLLEGE OF MISSOURI Sessions 1889 '90, 1890 '91, 1891 '92, and is thereby entitled to enter your SENIOR class, all other requirements being met by him

Respectfully,
L C MCELWEE, Registrar

To this certificate Dr Egan has appended the following note

> This certificate, like others presented by Larkeque, is fraudulent It is addressed under date of Aug 12, 1892 to the dean of a medical college which was not in existence in 1892 or 1893 one which was not organized until 1894 It is dated Aug 12 1892 on a letter head which must have been printed subsequent to 1897 as will be seen by the note on the upper right hand corner

A letter of inquiry sent to the secretaries of all the state boards brought a reply from the secretary of the Ohio State Board of Medical Examiners, stating that Garrett B B Larkeque had been registered October, 1898, on a diploma issued by the Cleveland University of Medicine and Surgery, March 25, 1893, and that "Dr" Larkeque had stated in his application for registration in Ohio that he had attended the Indiana Medical College from September, 1879, to March, 1882 (This institution became extinct Feb 28, 1878, and was succeeded by the Medical College of Indiana Examination of the annual announcements of this institution for the years named does not show the name of Garrett B B Larkeque among the matriculants)

The secretary of the State Board of Medical Examiners of California reported that Garrett B B Larkeque had been licensed in that state on a diploma from the University of Medicine and Surgery of Cleveland, Ohio, for June 5, 1901 The difference in the name and the date in this case will be readily noted

A letter from Dr Egan addressed to Mr Garrett B B Larkeque under date of Feb 24, 1908, setting forth the facts in detail concluded as follows

> It is the opinion of the Illinois State Board of Health that you obtained by fraudulent means the diploma which you presented to this board and that you are endeavoring to obtain a license from the Illinois State Board of Health by the same means In this opinion I heartily concur It gives me great pleasure to decline your appplication

These facts are certainly interesting. A diploma is presented to a board of medical examiners apparently issued by a medical college located in the state over which this particular board has jurisdiction The diploma is dated a year previous to the time when this particular medical college came into existence, yet a license is issued to the applicant Later, application for license is made to the secretary of a board in a far distant state, this time under a diploma made out in the name of a college which went out of existence three years before the date on which it is claimed the diploma was issued Again a license is issued to the applicant In the first application the applicant states that he took the first three years of his medical course at a medical college which had not been in existence for three years In his Illinois application he claims that he attended a certain medical college for three years, while the registrar of the college in question says no such man ever matriculated

Dr Egan is to be commended for his painstaking and thorough work in exposing this evidently fraudulent effort to obtain a license to practice medicine in Illinois For the protection of the public health, facts regarding such cases should be carefully investigated by the various state board secretaries and given as wide publicity as possible

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The Individual Communion Cup in Plague Times.—Alfred Martin publishes a historical contribution to this subject in the *Med Klinik*, Dec 15, 1907, from which it appears that the prevalence of the plague in the fourteenth century caused the common communion cup to be temporarily disused He states that individual cups were introduced at various places, the cathedral at Saalfeld still having one of the cups on exhibition from that early date He cites authorities to show that the danger of infection and scandal was the reason why the Roman Catholic Church withdrew the communion cup entirely from the laity (1414 1418) He also describes the open air communion services held in plague times by protestant clergy at which the wine was presented to each communicant but each brought his individual cup or spoon for the purpose One special instance is cited at Chiavenna, 1564 The records of the protestant church at Bopfingen in Würtemberg show that the inventory for 1703 contained "one small gold plated cup for the sick, one tin cup for infected persons" In 1806 mention is made of "one tin cup for communicants with venereal disease and the itch," in 1809, "one tin cup for venereal communicants" The tin vessels appear in the inventory as late as 1832 The question of individual cups was much discussed between 1782 and 1789, but after John Hunter's statement that the danger of communication of syphilis by this means was purely imaginary, the agitation subsided

Retention of the placenta, which receives much more attention from the authors, is very uncommon relatively, and when it occurs the treatment is definite In the series under consideration it occurred once, whilst in 20 or 20 8 per cent of the cases there was definite trouble with the membranes

The patients have all been Europeans belonging to what has been described as "the leisured class" Of these twenty-eight were treated in their own homes and the remainder under Nursing Home conditions

It will be most convenient, perhaps, if notes of the cases are given as they occurred, the number prefixed being the number in the series

Such conclusions as I have been able to draw as regards prophylaxis, symptoms course and treatment may follow, but I wish specifically to refrain from dogmatism for the numbers are few, and I am still an earnest seeker after truth in the subject

Case 15 2-para Notes are not available There was mild pyrexia, not exceeding 100°F from the 4th to 10th day Involution proceeded satisfactorily The treatment consisted of hot vaginal douches which brought away shreds of inoffensive membrane The patient complained of mild headaches during the continuance of the pyrexia

Case 28 2-para Duration of 3rd stage twenty-five minutes "Membranes were not felt to tear but a small piece appears retained The examination of the placenta was suspicious and inconclusive" Temperature 99 2°F on 3rd and 4th evenings- No membrane appeared in lochia and involution was satisfactory One year later the patient was reported as having a discharge and wishful to be curetted This case was interesting as being one of exophthalmic goitre "cured" by thyroidectomy The pulse was 124 and intermittent during 1st stage pain intervals and rose to 150 in the 2nd stage intervals It did not fall below 100 until the 12th day of the puerperium But we digress from our subject *

Case 36 3-para Duration of 2nd stage ten minutes "Membranes not intact—free bleeding" Mild pyrexia from the 4th to 10th day Highest temperature 99 6°F Shreds of membrane one inch in length were passed on 9th and 10th day Involution proceeded normally and the lochia remained healthy throughout

Case 41 4-para All previous labours said to have been difficult and followed by fever Third stage twenty-five minutes "Membranes tightly adherent steady traction induced profound shock, *i e*, pulse imperceptible at wrist. Considerable but not excessive hæmorrhage Some membrane was left in the uterus" Pyrexia from 1st to 11th day The temperature chart is appended The lochia were noted as offensive from the 3rd day and were scanty from the 7th day Involution proceeded slowly but steadily Intra-uterine douches were given daily from 9th to 14th day Large shreds of membrane and much purulent blood stained discharge were washed away The condition gradually improved The general condition of the patient remained good throughout but mild headache was constant

Case 45 1-para This case was very similar to the last and both gave rise to much anxiety Third stage, twenty-five minutes "Membranes closely adherent Steady traction caused shock and had to be discontinued Membrane retained in uterus Hæmorrhage about 20 oz" Pyrexia followed from 3rd to 23rd day, but did not rise above 99°F after the 12th day The temperature chart is appended Intra-uterine douches were given from the 6th to the 21st day The same purulent offensive discharge was present as in the preceding case Involution proceeded rapidly Mild headaches were constant but otherwise patient did not complain

Case 46 ?-para "The placenta was expelled into the vagina by natural forces a few minutes after the completion of the second stage and was expressed ten minutes after the birth The entire edge of the placenta was separated from the retained membranes Moderate traction was made on the cord of membranes without success They were left There was no hæmorrhage" Traction on the membrane was made on 2nd and 3rd day and again on the 4th day when the complete mass came away Pyrexia from 3rd to 5th day Highest temperature, 100 6°F, lochia offensive of 3rd, 4th and 5th days, afterwards natural Daily vaginal douches No delay in involution

Case 55 1-para Third stage, forty minutes "Membranes firmly adherent and probably not completely removed Slight hæmorrhage" The chart appended shows well the almost undisturbed involution of the uterus and the course of the pyrexia In this case the lochia did not become offensive The last shreds of membrane were washed away on the 17th day Save for mild headaches the patient's general condition was hardly affected

Case 59 2-para Third stage, sixty-five minutes "Placenta intact but a 4-inch edge of chorion missing" This interesting case had no symptoms save slight headaches The uterus could no longer be felt abdominally on the 6th day The temperature and pulse were both below normal and the lochia were never

* Notes in inverted commas are those made at the time

CHAPTER V DISEASES OF ORGANS OF GENERATION

1 Stenosis and perforation of gas tubes
2 Impotence of the generator
3 Tubal rupture due to cheesy degeneration of the outer casing
4 Perforation of inner tube caused by pointed foreign bodies
5 Psychic effects of possessing but one inner tube or none at all!
6 Premature delivery of spark
7 Enuresis of the gasoline tank.

CHAPTER VI GENERAL DISEASES

1 Karyokinesis of the carburetor, due mostly to faulty mixture Proper mixture 5 gal gasoline in tank 4 oz. spiritus frumenti per os q 3 hrs makes auto run fine and is a good general stimulant
2 Ankylosis of the steering knuckle
3 Addison's disease of the differential
4 Rachitis of the rear axle
5 Osteomalacia of the radius rods
6 Impaction and obstruction due to sudden transverse presentations
7 Resections and amputations of the tonneau
8 Shaft drive versus Ehrlich's side chain theory
9 Immunity and accident insurance

CHAPTER VII OCCUPATION NEUROSES

Motor spine, crank wrist, diplopia, gogglyopia, tachymania, inspectorophobia, and that general run down condition that comes from automobiles

Vocabulary and Glossary (mostly Greek derivatives) attached and absolutely indispensable to a proper understanding of the diseases of the automobile

All motor ailments stand in need
Of some repairs to right them
And these repairs need new repairs,
And so ad infinitum

For copies of the book and for specimen pages send your name and check to the publishers, Blowout, Skidmore & Co., 23 Krankhard place, Walkbac, N G

DIARY OF A BUSY DOCTOR

C H. BRYAN, M D
CHICAGO

DR SMITH was sitting by his fire one night about 11 o'clock The frosty wind outside was whistling around the corners and driving the snow into drifts and sifting it under doors The doctor was telling his faithful wife about how much time he could have saved in the past twenty years if he had been able to use an automobile during that time He was telling her how from now on he expected to get more enjoyment from life because he could save half his time on the road

"Just think, Mary, I went 20 miles to see Farmer Jones and back again almost in two hours Doen t that seem impossible? Now I will be able to get home to a warm meal occasionally and make up some of the sleep I have lost during the past twenty years"

Just then the bell rang "Do not go out to night, my dear," said his wife, 'besides you know you have a cold" A man was at his door who had just come 25 miles on horseback. His face showed the effects of his battle with the storm His fur overcoat and cap, well pulled up over his ears were white from the drifting snow 'For God's sake, Doctor, go to my wife at once I doubt if she will live until you get there"

Five minutes later the doctor emerged from the house in fur coat and with his gripsack in his hand His faithful automobile was now his only thought 'How easily I can make this trip" he thought, "and how much quicker I can get to her than I could with my team, and how much greater the chances will be that I can save the life of this dear woman" Imagine his horror on going to the barn and seeing his automobile with one tire flat He calls his wife to hold the lamp, while he goes at it furiously to fix the puncture One hour later with his fingers stiff from the cold, and his wife shivering from head to foot, he has the tire in order Now he will be on the road in a few minutes, but stay, the starting crank will not turn, the water pump is frozen After another hour he has built a fire in the kitchen stove and heated water and thawed out his pump

Now he will soon be going The motor runs beautifully and as evenly as a clock Out into the sharp, snow driving wind he points it and takes the road at a furious speed It is now 1 o'clock and he feels sure he will be there in an hour In a little while, however, he realizes that all is not well The engine is pounding, fuming and steaming A little investigation shows him that his radiator is frozen up Just what to do he does not know However, a happy idea strikes him and he goes to a house by the roadside. After being almost bitten by the dog and nearly breaking down the farmer's door, he finally has him awake After due explanation, the farmer, in order to save a life, will accommodate the suffering doctor and builds a fire in the kitchen stove and heats water to thaw out the radiator

Two o'clock and this is done, the doctor now on the road again and going at a furious speed Ten miles are behind him in less than thirty minutes Once more to his horror his motor is pounding and hot What can be the cause of this? He stops his machine and alights just in time to see the last bit of water leak out of a crack in his radiator Another farm house must be invaded This time he obtains a bucket of water to fill his radiator and some rags to stop the leak

Three o'clock and he is going again, fast and furious, with the snow getting deeper and deeper Ten miles more and he is almost there The motor is now furiously hot again and beginning to pound Once more he must have water Thought fully he has brought along the bucket A nearby creek will supply the water After breaking the ice and going through it almost to his knees and soaking his feet, he once more gets a bucketful of water and cools his thirsty engine At 4 o clock he arrives and finds that a nearby physician has saved the life of his patient As daylight breaks he reaches home again with another tire flat and his radiator leaking badly

"Mary, I think that if the water cooling and tire trouble could be eliminated from my automobile, and the wheels made high enough to get through the snow drifts, my automobile would be a good thing" His faithful wife tells him that she has read about an automobile made in the manner he describes She says that she thinks it is called a "buggy automobile"

A record in Dr Smith's diary will now show that he has a buggy automobile and can go almost anywhere under any conditions and at any time of year

I had almost a duplicate of the above troubles until I purchased a high wheeled, air cooled, solid tired automobile (152) four years ago Since then I have run it and am still running it with the greatest of success

SIX AUTOS AND NOT SATISFIED

A D HARD, M D
MARSHALL, MINN

TO GUARD against the impression that I am a fresh enthusiast, like a boy with a new toy, I will state that I have been using automobiles in country practice continuously for the past ten years In the spring of 1902 I ordered the first automobile (114) used by a physician in country practice west of the Mississippi River, and began using it on the prairie roads of southeast South Dakota

Since then I have owned a gasoline runabout (115) of one cylinder, continually requiring repairs, a large two seated car (115), an improvement in a few ways, but with many faults, a two cycle runabout (116), a great disappointment, and a small buckboard runabout (148) This last car carried me over hills and through mud where the big machines could not go

In 1907 I purchased a late model of a two cylinder 14 horse power runabout (149), which I am now using It has

is necessary I think that in these circumstances the correct method is to take the placenta and gradually twist it, thus by torsion forming a membranous cord through which the membrane is gradually peeled off and delivered by a further process of torsion and resulting traction, every effort being concentrated on the prevention of tearing

What then is the general management of this stage ? After the birth of the child the hand should be placed gently on the fundus The word 'control' often used in this connection would be better changed to 'observe' Allow half an hour to elapse, then if the placenta be still undelivered, instruct the patient to take a deep breath during a contraction This will usually have the desired effect

Supposing, either from feeling the membranes tear or from a careful examination of the afterbirth, we know that there is retention of membrane, what is the immediate treatment ?

Here is the crux of the matter Are we to violate the sanctity of the womb and remove the membrane manually ? Are we to leave things to nature ?

I have adopted the latter course in the expectation that the membrane will become detached and be expelled My reasons are that the introduction of the ungloved hand into the uterus after delivery incurs a grave risk, and that with a gloved hand we cannot sufficiently define the retained membrane as to be sure that all is removed On the other hand if the treatment to be outlined be adopted we seem to have the condition under control I have given in these cases a mixture of ergot and quinine, but am unable to say whether it is of any benefit

Intra-uterine douches are the sheet anchor in treatment They should not be given at once but on the definite appearance of reaction Even then hot vaginal douches are perhaps better for the first day or two They keep the vagina clean and stimulate the contraction of the uterus They should not be given by the nurse except under supervision, for in these cases it is not fair to divide responsibility The aim of the intra-uterine douche should be purely the mechanical one of cleansing the uterus from discharge and washing away loosened membrane There must be no thought of disinfection The ideal agent would be a sterile normal salt solution I blush to admit that I use a weak solution of "Milton" This has the disadvantage of its odour which masks any there may be in the discharge The douches should be repeated daily, and their effect on the condition has always been marked A vaginal douche should of course precede the uterine one A speculum should then be inserted and the anterior lip of the cervix seized with ring forceps The instrument used is a Budin's catheter which is passed slowly and carefully until it is felt to impinge on the fundus This enables the whole of the uterine cavity to be flushed out and not merely the region of the cervical canal, a point of some importance The visibility of the operation is one safeguard against perforation of the uterine wall Delicacy of touch is another, lacking which we should resemble a "bull in a China shop"

These details may seem trivial, but they all make for safety by obviating any manual interference and so preventing a possibility of the additional element of reinfection, and the conversion of a manageable monosepsis into an unmanageable polysepsis, which prevention here, as in so many other surgical conditions, is the core of successful treatment

INDIAN SCIENCE CONGRESS, 1922.

MEDICAL RESEARCH SECTION

THE Medical Research Section of the Indian Science Congress opened its fourth session on Wednesday, the 1st of February 1922 Major J Cunningham, I M S, delivered the presidential address, the title of which was "India's debt to Medical Research," and the text of which will be found elsewhere in the current number

After Major Cunningham's address the proceedings on the first day were as follows —

Colonel Cornwall (Coonoor) read a paper on the ultimate aim of medical research

Dr Curjel (Delhi) gave the result of her investigation into the weight curve of Indian infants during the first year of life, and pointed out the importance of this type of investigation

Lieut-Colonel Glen Liston and Dr Soparker (Bombay) read a paper on an outbreak of tuberculosis amongst animals in the Bombay Zoological Gardens The authors were of opinion that the outbreak was due to the importation of animals from abroad

In the discussion that followed, the general opinion expressed was that tuberculosis amongst South India cattle was very rare, but the danger of importation of this disease was recognised

Colonel Row (Bombay) gave the results of experiments which he had carried out with cultures of tubercle bacilli, with particular reference to the ferments which arise from them

Major Cunningham and Sub-Assistant Surgeon B Timothy (Madras) read a paper dealing with the various methods of enumerating bacteria

Dr Ramakrishnan (Madras) dealt with the unreliability of the formol-gel reaction as a test for syphilis *

* Will be published separately in the July number

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

TREATMENT OF CONTRACTED TENDONS OF THE ARM

BUCKEYE KY Jan 16 1908

To the Editor —What would be the best treatment of the following lesion? The patient has suffered for four or five years from contracted tendons of the biceps and brachialis anticus of the right arm which consequently forms almost a right angle as it hangs The symptoms of the disease from which the contracture resulted were those of chronic rheumatism The knee joints were at first involved but the patient now walks fairly well There is little pain or tenderness about the joint itself, which seems to be all right except that only partial use of it is possible The muscles both anteriorly and posteriorly are somewhat atrophied from lack of use The patient (female) is well nourished slightly nervous and possibly somewhat inclined to hysteria She has had much treatment from regular practitioners and others without avail

G M. HENDERSON, M.D

ANSWER —Were the right angle position of the elbow due simply to a shortening of the biceps and the brachialis anticus muscles and did these muscles still retain the power of voluntary contraction the answer to the above question would be simple for the biceps tendon could be easily lengthened by splitting it and the brachialis anticus could be divided But such is undoubtedly not the case The ligaments about the joint are certainly shortened even if the joint surfaces themselves are not permanently changed so that if both the muscles mentioned were divided the joint would still retain its right angle position Where a joint has been flexed in that manner for a period of four or five years all the soft parts on the flexor side are shortened Granting that the joint surfaces are intact and that the flexed position is due to shortening of the soft parts the forearm may be forcibly extended somewhat under gas anesthesia and fixed for a time by a plaster cast until the reaction subsides and the parts become accustomed to their new position then repeat the process gaining a little more and so on until complete extension is obtained or apply a screw extension splint turning the screw a little daily until extension is reached Should it be found that the muscles are interfering greatly with progress and they do not yield a subcutaneous tenotomy may be done The functional activity of the muscles should be encouraged by massage electricity and above all by voluntary action.

EFFECT OF BULLET WOUND AT SHORT RANGE

SOLDIER IDAHO Jan 30 1908

To the Editor —I would like your opinion in regard to the effect of a 30 30 or similar caliber high power rifle loaded with a soft nose or explosive bullet when fired from a close range (say 30 or 40 feet) and striking the victim below the occipital protuberance I shall be called to testify in a case of murder in which I found that the entire vault of the cranium from below the occipital protuberance to just above the ears and extending forward to just above the eyes had been blown off the brain was torn loose down to the medulla and one-half or one side of the brain was entirely detached I am of the opinion that the wound was caused by a rifle of the above description both from the great destruction of the skull and from the appearance of the brain

A. AYER HIGGS

ANSWER.—When a small caliber soft nose bullet fired from a modern rifle at close range strikes the skull the most extensive destruction results When the distance is within 50 meters and the bullet strikes squarely the skull is fractured into many pieces which are actually blown asunder carrying the scalp with them and the brain is reduced to a mere pulp When the distance is between 50 and 100 meters the effect on the bones and brain is about the same but the scalp usually remains holding the fractured bone in place In one case reported by von Bergmann the skull was fractured in 190 fragments When the bullet strikes tangentially the effect may vary somewhat according to the angle of incidence and the point of impact, but the destruction is always great An injury such as is described above could be produced by a bullet from a modern rifle at close range but it is probable that the bullet did not strike the skull squarely nor pass through the cranial cavity at least not through the brain There is an excellent article on the effects of soft nose bullets by Bruns in the *Beitrage für klinische Chirurgie* xxi p 825 Consult also Bergmann's Surgery vol iv first (original) edition August Schachner The Surgical Aspects of the Modern Small Bore Projectiles" *Annals of Surgery* xxxi, p 75 Foxworthy Modern Bullet Wounds" *Annals of Surgery* xl p 834

MAGNESIUM SULPHATE TREATMENT OF TETANUS

CROCKETT TEXAS Feb 18 1908

To the Editor —Please give me information regarding the literature and status of Meltzer's treatment of tetanus by magnesium sulphate

W S LINSCOMB

ANSWER —The treatment of tetanus by intraspinal injections of magnesium sulphate has been applied with success in a number of cases Eight cases have been reported The treatment appears to be one worthy of further investigation Reference may be made to the following literature dealing with this subject and with the allied one of anesthesia by intraspinal injections of magnesium sulphate

Meltzer and Auer *Amer Jour Physiol* 1905 xiv, 386
1905 6, xv, 387 1906 xvi 233 1906 xvii 313

Meltzer, S J *Med Record*, Dec 16 1905, abstracted in THE JOURNAL Dec. 30 1905 p 2031

Meltzer and Auer Effects of Intraspinal Injections of Magnesium Salts on Tetanus *Jour Exp Med*, December 1906 abstracted in THE JOURNAL Feb 2 1907 p 454

Meltzer S J and Lucas D R Physiologic and Pharmacologic Studies of Magnesium Salts. *Jour Exp Med*, May 25 1907 abstracted in THE JOURNAL June 22, 1907 p 2163

Haubold H A and Meltzer, S J Spinal Anesthesia by Magnesium Sulphate THE JOURNAL Mar 3 1906 p 647

Logan S Case of Tetanus Treated by the Intraspinal Injection of Twenty five per cent Solution of Magnesium Sulphate *New Orleans Med and Surg Jour* May 1906

Id. Treatment of Tetanus by Intraspinal Injections of Magnesium Sulphate for the Control of the Convulsions THE JOURNAL May 19 1906 p 1502

Blake *Surg Gyn and Obst* May 1906 abstracted in THE JOURNAL June 16 1906 p 1886

Id *Annals of Surgery* September 1906

Id Abstract of paper read at American Surgical Association in Society Proceedings, THE JOURNAL July 14, 1906 p 146

Franke *Ztschr f innere Med* 1907 xxviii 345

Robinson G C Treatment of Tetanus by Intraspinal Injections of Magnesium Sulphate THE JOURNAL, Aug 10 1907 p 493

Greeley H Magnesium Sulphate Successful in Two Cases of Tetanus THE JOURNAL Sept 14, 1907 p 940

REMOVAL OF SUPERFLUOUS HAIR

GRANBURY TEXAS Feb 20 1908

To the Editor —Can you recommend an application that will destroy superfluous hair? I have a young woman patient who is very much worried over the rapid growth of hair on her chin and she is anxious to get rid of it. I have destroyed a few hairs by electrolysis, but this method is too slow Please give me the ideal treatment to use in such cases so as not to leave any detrimental after effects.

W S W

ANSWER.—There is no application that will destroy superfluous hair The hairs can be temporarily removed by depilatories of which the following is a good example

R	gm		
Fresh barium sulphid	8		3ii
Zinc oxid		or	
Starch āā	12		3iii

At the time of using mix with a sufficient quantity of water to make a paste Apply the paste thickly to the surface leave for a few minutes until irritation begins then remove with water or oil

The paste destroys the hairs with little irritation if it is not allowed to remain on too long Apply a dusting powder afterward Of course this simply destroys the hairs as they project from the surface of the skin and as after shaving the hairs become coarser it is necessary to repeat the process about once a week. The hairs can be bleached until they have no color by using peroxid of hydrogen and ammonia water This makes them less conspicuous but does not remove them

The only radical way of destroying hairs is by electrolysis This is a satisfactory method if the hairs are rather coarse and not too numerous for an abundant fine down it is very slow and tedious In many cases the hairs can be destroyed by *x* rays. There is no satisfactory and simple way of treating hypertrichosis

COLOSTOMY FOR THE RELIEF OF COLITIS

WINFIELD KANS. Feb 17 1908

To the Editor —Can you give me any information concerning the number of cases in which colostomy has been performed for the relief of colitis or can you tell me where I can obtain it?

H L SNYDER

ANSWER.—We are unable to give a complete list of all the cases in which colostomy has been performed for the relief of colitis but in the following articles a number of cases are reported in detail and references are given to many more cases the present status of the subject is also discussed

Pauchet and Prieur Colites Chroniques *Arch prov de Chir* 1905 No 11

NOTE ON THE RATIOS OF THE NUMERICAL CONTENT OF CERTAIN BACTERIAL SUSPENSIONS OBTAINED BY THE HÆMOCYTOMETER METHOD TO THOSE OBTAINED WITH BROWN'S OPACITY TUBES

By J CUNNINGHAM, BA, MD,
MAJOR I M S,
and
B TIMOTHY, L M P (Madras),
Sub-Assistant Surgeon
(From the King Institute of Preventive Medicine, Guindy, Madras)

THE opacity method of enumerating bacteria introduced by Brown was originally based on numerical equivalents estimated by a combination of Wright's and Braxton Hicks methods In a later communication the rates of the numerical content of bacterial suspensions obtained by the hæmocytometer methods to his original table (taken as unity) were only given for B typhosus, B paratyphosus A and paratyphosus B

A further series of other common organisms have been submitted to a similar procedure and their ratios to Brown's original table have been estimated The results which have been obtained so far correspond closely with those given by Brown The numerical value of the opacity tubes as estimated by the Hæmocytometer method is somewhat higher than the values originally given by this author, the ratio between the old and new methods varying between 1 to 1.2 and 1 to 0 9 for different organisms

PROCEEDINGS OF THE MEDICAL RESEARCH SECTION OF THE INDIAN SCIENCE CONGRESS ON THURSDAY, THE 2ND FEBRUARY, 1922

THE second day of the Medical Research Section of the Indian Science Congress was devoted to a discussion on the problems of kala-azar The great interest which this subject has for Madras was evinced by the large attendance at the Section The Hon'ble Diwan Bahadur P Ramarayaningar, Minister for Local Self-Government, Mr Richards, Secretary, Local Self-Government, and the Surgeon-General were amongst those present The session opened with a paper by Lieutenant-Colonel R Row, on certain forms of the kala-azar parasite in culture This paper was beautifully illustrated by lantern slides Three papers then followed dealing with the cultivation of the blood of infected patients , the first by Lieutenant-Colonel Cornwall and Dr Lafranais from Coonoor, the second by Sub-Assistant Surgeon Biraj Mohan Das Gupta from Assam, and the third by Dr Sithapati y Iyer and Dr Krishnan from the King Institute, Guindy The importance of this method as a means of diagnosis was brought forward

Lieutenant-Colonel Greig then read a communication received from Mrs Adie upon the new bodies which she had discovered in the salivary glands of the bed bug Lantern slides illustrating these bodies were shown

The subject was thrown open to general discussion by the reading of Major Mackie's paper, which gave a review of the present position of kala-azar This paper was read by Major Cunningham owing to the unavoidable absence of Major Mackie Major Mackie drew attention to the prominent part which had been played by workers in Madras in the investigation of kala-azar In dealing with the parasite he referred to the possibility of a stage in its life history which was at present unrecognised It would explain to some extent its presence in culture when it could not be demonstrated under the microscope In dealing with the clinical aspect of the disease he referred to the difficulties in diagnosis and the value of the different methods which are at present available for this purpose He pointed out that Colonel Cornwall's method of cultivating the parasite promised to be one of the most valuable of these methods He then proceeded to discuss the possible means by which the Leishman Donovan body could gain access to and escape from the human being He referred to the possibility of infection by means of the intestinal canal and also referred to a certain experiment which demonstrated the possibility of infection by means of the skin He devoted more attention, however, to the controversy which at present rages round the transmission of the disease by means of an insect Dealing first with the bed bug he discussed the work which had been done by Patton, Mrs Adie, and Cornwall with this insect, and pointed out that while the bodies observed by Mrs Adie were most suspicious, further work had yet to be done before they could be finally accepted as a stage of the Leishman Donovan body He next discussed the position of the sand-fly as a possible carrier of the disease He pointed out that it had already been proved that the sand-fly carried a similar organism, and recorded certain suggestive experiments which he had carried out He finally dealt with the treatment of the disease by means of antimony tartrate Some drawings illustrating Leishmania-like bodies found by Major Mackie in the bed bug were also demonstrated Colonel Elwes approached the problem from the point of view of the physician, and dealt with values of the various diagnostic tests from the clinical point of view He also referred to the various methods of using antimony salts in the treatment of the disease

Colonel Cornwall pointed out that he was unable to confirm Mrs Adie's findings as to the development of the parasite in the intestine of the bed bug, nor did he find any evidence of the bodies described by Mrs Adie, in the salivary glands

Colonel Liston pointed out that the bodies found by Mrs Adie were similar in appearance to others found by the Plague Research Commission in the salivary glands of the flea He also pointed out that while the disease was very limited the distribution of bed bug was universal and that this point should not be forgotten

Captain Ganguli (Calcutta) gave his experience of the disease as he had seen it in Calcutta

Simonson, G. T., acting asst. surgeon, granted leave of absence for one day, Feb. 21, 1908.
Walker, T. D., acting asst. surgeon, granted leave of absence for two days from Feb. 25, 1908.

Health Reports

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Feb. 28, 1908.

SMALLPOX—UNITED STATES

California: San Francisco, Feb. 1-8, 3 cases.
Illinois: Springfield, Feb. 6-13, 6 cases.
Iowa: Ottumwa, Feb. 8-15, 1 case.
Kansas: Kansas City, Feb. 8-15, 11 cases; Topeka, Feb. 1-8, 2 cases.
Michigan: Saginaw, Feb. 1-8, 6 cases.
Ohio: Cincinnati, Feb. 7-14, 26 cases, 1 death; Warren, Feb. 8-15, 1 case.
Oregon: Portland, Feb. 1-8, 2 cases.
South Dakota: Sioux Falls, Jan. 25-Feb. 1, 1 case.
Tennessee: Nashville, Feb. 8-15, 6 cases.
Texas: San Antonio, Feb. 1-8, 8 cases, 1 death.
Washington: Spokane, Feb. 1-8, 13 cases.

SMALLPOX—FOREIGN

Cape Colony: East London, Jan. 4-11, 2 cases, 1 death.
Japan: Kobe, Jan. 11-18, 783 cases, 163 deaths; Nagasaki, Jan. 1-23, 3 cases; Yokohama, Jan. 18-25, 40 cases, 13 deaths.
Java: Batavia, Dec. 21-Jan. 18, 9 cases.
Mexico: Aguas Calientes, Jan. 26-Feb. 2, 4 deaths; Mexico City, Jan. 4-11, 2 deaths.
Netherlands: Rotterdam, Jan. 18-25, 1 case.
Portugal: Lisbon, Jan. 18-25, 2 cases; Feb. 1-8, 1 case.
Russia: Batoum, Dec. 13-Jan. 13, 23 cases; Libau, Jan. 18-Feb. 1, 2 cases; Moscow, Jan. 4-18, 57 cases, 17 deaths; Odessa, Jan. 11-18, 2 cases, 2 deaths; Riga, Jan. 11-Feb. 1, 19 cases.
Spain: Denia, Jan. 11-25, 11 cases; Valencia, Jan. 12-Feb. 2, 56 cases, 5 deaths.
Straits Settlements: Singapore, Dec. 8-Jan. 4, 19 deaths.
Venezuela: Caracas, Jan. 4-11, present; La Guaira, Jan. 4-Feb. 1, present.

YELLOW FEVER

Barbados: Bridgetown, vicinity of, Jan. 29, 1 case, 1 death.
Cuba: Habana, Feb. 20-22, 2 cases; Santiago, Feb. 20, 1 case.

CHOLERA

India: Madras, Jan. 4-10, 8 deaths; Rangoon, Jan. 4-11, 7 deaths.

PLAGUE.

Australia: Brisbane, Jan. 3, 1 case, 1 death; Cairns, Nov. 23-30, 1 case, 1 death; Sydney, Dec. 28-Jan. 4, 2 cases.
Chile: Valparaiso, Jan. 4, 1 case.
China: Hongkong, Dec. 21-28, 1 case, 1 death.
Egypt: Assiout Province, Jan. 16-22, 15 cases, 7 deaths; Gharbieh Province, Jan. 19-22, 2 cases; Minieh Province, Jan. 12-22, 15 cases, 5 deaths.
India: General, Dec. 22-28, 3,725 cases, 5,741 deaths; Dec. 28-Jan. 4, 4,402 cases, 2,618 deaths.
Peru: Callao, Jan. 11-18, 4 cases, 1 death; Catacaos, 7 cases, 4 deaths; Chosika, 1 case; Eten, 9 cases, 3 deaths; Ferreñafe, 1 case; Lima, 5 cases, 3 deaths; Paita, 10 cases, 9 deaths; Piura, 2 cases; San Geronimo, 4 cases; Trujillo, 29 cases, 9 deaths.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF ORGANIZATION, POSTGRADUATE WORK, CONTRACT PRACTICE, INSURANCE, FEES, LEGISLATION, ETC.

PROFIT SHARING METHODS

A Further Comment on the Questionable Procedure.

Evidently the profit sharing method of promoting the sale of nostrums discussed in THE JOURNAL has been adopted by a number of manufacturers. The *Journal of the Michigan State Medical Society* for January contains an editorial headed, "How Some Nostrums are Exploited," which says in part:

The very latest that has come to our attention is a scheme that with its attractiveness and simple plan rivals the astuteness of the crossroads barker. A large eastern importing firm is eager to increase its sale of remedies—a very laudable ambition. The agent tells you that the laity "cry for" these products, but the firm abhors the suggestions of public advertisement to increase the sale. They have spent fortunes annually in honest medical advertising and could continue with profit. But why should they give these sums of money yearly to medical periodicals when the profession might as well divide the plum? Their plan is this: The company has placed on sale a large block of preferred stock. (How enticing this word stock is to the struggling practitioner!) Only a limited number of shares is procurable by each physician at par value. He pays 10 per cent. down on the subscription and 10 per cent. monthly until all is paid for. Meanwhile he is assured of a 2 per cent. quarterly dividend with an annual common dividend amounting to 10 per cent.

What are his duties as a subscriber and shareholder? None *absolutely none!*

He is assured that it is perfectly ethical—no question about it. The names of prominent physicians are mentioned and his skepticism vanishes as his eagerness to enjoy the income on a safe investment grows.

At this moment (if the agent does not press his scheme too quickly) he is inclined to ask himself a few questions. Who will buy the products of this concern? Will he prescribe them for his patients if he never has before, or in preference to remedies that he is sure of? Has he the right to become the agent or the advertising medium of a business corporation in his practice of medicine? Would his action pass a "council of ethics?"

At that moment, too, he wonders if these prominent physicians really bought stock in such a concern? If they did, were their motives ethical?

There can be but one standpoint for a physician to take on such a proposition: to brand it as absolutely unprofessional. The man who trifles with the welfare of his patient for the purpose of selling the products of a company in which his money is invested, is *on a lower plane than the practitioner* who takes a rake-off from the prescriptions he sends to his druggist. He is a masquerading buzzard, and there is no scorn nor condemnation severe enough to put him on the rack with those charlatans who make their livelihood on secret nostrums.

From other information received, we assume that the company referred to is Eisner & Mendelsohn. A letter received from a prominent member of the Association living in Detroit says:

"The proposition made to me by Eisner & Mendelsohn's representative was substantially as follows: Stock in the company *was to be issued to be sold only to physicians.* The amount and price I do not remember, but according to the agent's statements, at the present rate of sale it would net between 12 and 20 per cent. Purchase of the stock was not to imply any obligation to prescribe the company's goods. [Of course not!] The head of the firm was represented as a highly ethical, more or less philanthropic gentleman who wanted to give the physicians a chance to make a little money. [This is certainly pure philanthropy.] To any statement that it would be a highly improper thing for a physician to subscribe, the agent replied that a number of men of high reputation had done so and mentioned a number of names, among them an ex-president of the American Medical Association and a well known surgeon both living in Chicago, as well as a prominent physician of Cleveland. The agent gave the amount of the alleged subscription in each case. I questioned him about some of my personal friends, but none of them seemed to be on his list." [Very much like "patent medicine" testimonials. The wonderful cases of recovery are always located in some distant part of the country.]

A letter received from another Michigan physician says:

"Some time in November I received a letter from Eisner & Mendelsohn *stating that their agent would call on me in the* near future to present a proposition they were offering to the profession alone. About three weeks later a young man by the name of Brown from Chicago called on me and placed before me a proposition to purchase stock in the Eisner & Mendelsohn Company. He said that the firm did not do any general advertising, but desired that the profession should receive a share in the profits of the company by becoming holders of the preferred stock. They claimed to be capitalized for $1,000,000, held as common stock. Preferred stock was to be sold up to 100 shares to each physician. They guaranteed an annual dividend of 8 per cent., payable quarterly. This young man assured me that the plan was perfectly ethical, and flatteringly said that only prominent members of the profession would be *offered this opportunity.* Of course, he added parenthetically shareholders would naturally prescribe the products of the company, samples of which he was pleased to leave with me. He told me the most prominent physicians in Chicago were shareholders, and mentioned the names of ————, ————, and ————."

That this canvass for subscriptions has not been limited to Michigan is shown by letters received from other parts of the country. The following comes from a Philadelphia physician:

"About Jan. 21, 1908, an agent representing himself as sent out by the Eisner & Mendelsohn Company for the purpose of interesting physicians called on me. He offered for sale stock guaranteed to pay 8 per cent., which he said he wished to dispose of in lots of from $100 to $1,000, no physician being

access to a large number of patients so that it may be decided whether the method is really as successful as we believe it to be in establishing the diagnosis even in quite early stages of the disease.

The N N N tube is an unnecessary complication all that the parasite requires for its development into a flagellate and the subsequent free multiplication of the flagellates, is the fluid nutrient medium provided by diluted, lysed blood and a sufficiency of oxygen

DISCUSSION ON LIEUT-COL CORNWALL'S PAPER ON THE CULTIVATION OF 'LEISHMANIA-DONOVANI' FROM THE PERIPHERAL BLOOD OF PERSONS SUFFERING FROM KALA-AZAR

LIEUT-COL R ROW, (Bombay), thought Colonel Cornwall's new method of value in that it aimed at the simplification of the process He considered the dilution of the patient's blood as a primary factor in successful cultivations, as the infective material contained bodies inimical to the growth of the parasite. He invited the attention of the Congress to a paper published by him in 1917, in the 'Transactions of the Grant Medical College, Bombay, wherein he had described a similar method

THE DIAGNOSIS OF KALA-AZAR BY PERIPHERAL BLOOD CULTURE.

By BIRAJ MOHAN DAS GUPTA

Sub-Assistant Surgeon

(Abstract)

(*From the Laboratory of the Assam Kala-azar Enquiry*)

BETWEEN March and August 1921, the peripheral blood of 35 cases of kala-azar was submitted to culture on N N N medium. Nineteen of these patients had had no antimony treatment whilst in the remaining sixteen varying amounts of antimony had been given

All of these cases except two were culturally positive. The average time when flagellates first appeared in the cultures was just under eight days,—(shortest period 5 days, longest 22 days) The two negative cases had each undergone a complete course of antimony (200 c.c. of 1 per cent. sodium antimony tartrate) but had not shown much improvement in the clinical condition. Though the peripheral blood culture in these two cases was negative in both Leishmania were found microscopically in spleen smears Two cases which were positive both by peripheral and splenic blood culture were negative by microscopical examination of blood and spleen juice.

These results shew that the diagnosis of kala-azar by culture of the peripheral blood in skilled hands is little, if at all, less reliable than miscroscopial examination of spleen juice.

THE VALUE OF CULTURE OF THE PERIPHERAL BLOOD IN KALA-AZAR AS A DIAGNOSTIC PROCEDURE.

By Dr SEETHAPATHY AYYAR and Dr KRISHNAN*

THE PROBLEM OF KALA-AZAR

By F P MACKIE, OBE

MAJOR I.M.S

(Abstract)

(*From the Pasteur Institute, Shillong*)

THIS paper was read by Major Cunningham owing to the unavoidable absence of Major Mackie. Major Mackie drew attention to the prominent part which had been played by workers in Madras in the investigation of kala-azar In dealing with the parasite he referred to the possibility of a stage in its life history which was at present unrecognised. Such a supposition would explain to some extent its presence in culture when it could not be demonstrated under the microscope. In dealing with the clinical aspect of the disease he referred to the difficulties in diagnosis and the value of the different methods at present available for this purpose. He pointed out that Cornwall's method of cultivating the parasite promised to be one of the most valuable of these methods He then proceeded to explain the possible means by which the Leishman-Donovan body gained access to and escaped from the human being He referred to the possibility of infection by means of the intestinal canal, and also drew attention to an experiment which demonstrated the possibility of infection by means of the skin He devoted more attention, however, to the controversy which at present rages round the transmission of the disease by means of an insect Dealing first with the bed bug he discussed the work which had been done by Patton, Mrs Adie, and Cornwall with this insect and pointed out that, while the bodies observed by Mrs Adie were most suspicious, further work had yet to be done before it could be finally accepted as a stage of Leishman Donovan body He next discussed the position of the sand-fly as a possible carrier of the disease He pointed out that it had already been proved that the sand-fly carried a similar organism, and recorded certain suggestive experiments which he had carried out in this direction He finally dealt with the treatment of the disease by means of antimony tartrate. Some drawings illustrating Leishmania-like bodies found by Major Mackie in the bed bug were also demonstrated

Discussion

LT-COLONEL ELWES, C.I.E., I.M.S., (Madras)

THE papers we have listened to this morning are for the most part the work of men whose work is almost entirely in the laboratory I should like therefore to make a few remarks from the clinical point of view

Three papers have been read with the same object, *viz* the diagnosis of kala-azar by means of culture from the peripheral blood Now these three papers show results varying from 25 per cent. to 100 per cent. of successes and taking into consideration the fact that this work has in every case been carried out by experts, I think the great difference in the results obtained is in itself sufficient to demonstrate that the method of diagnosis is not satisfactory I shall speak later, when dealing with diagnosis of a method which in my opinion is more satisfactory than blood culture. Unfortunately only one of these authors has, I think, mentioned whether the cases were clinically kala-azar This is important for it is easier to cultivate the flagellates from the blood of a clinical case than an earlier and a doubtful case Dr Seethapathy Iyer, however, stated that the cases at Guindy were some of the doubtful cases Others were clinically kala-azar, as I can verify, for many of the cases to which he refers, came, I think, from my wards and it is here, where we know many of the cases were early or doubtful cases, that the results of culture as a method of diagnosis are least satisfactory Another drawback to this method of diagnosis is the delay in obtaining a positive result which may be anything from 6 to 40 days Major Mackie in his most interesting paper has brought forward various methods of diagnosis, the surest of which has perhaps been splenic puncture This procedure is, however, not without danger, more especially in children who cannot be compelled to keep absolutely still while the puncture is made. Recently something over 20 cases of kala-azar in my ward have had their livers punctured as a means of diagnosis and of these all but two showed the Leishman-Donovan body present, generally in large numbers There were, however, two cases, one a child of about 8, the other a boy of about 16 in whom liver puncture even when repeated proved negative, whilst splenic puncture showed the parasite as present. Liver puncture is I think absolutely without danger and, since it gives over 80 per cent positive results, I advocate it as the best known means of diagnosis, and I only resort to splenic puncture where liver puncture is negative.

I may add that the peripheral blood culture of some of these cases, in which liver puncture has proved positive

* Will be published separately elsewhere in the July number

acted and placed on the statute books of Indiana, California, Tennessee, Nebraska, Idaho, Utah, Montana, Minnesota, Oregon, North Dakota, Arizona and New Mexico"

It is time that attention be called to the attempt which is being made to foist unnecessary and dangerous legislation on the public in various states These optometry bills should be vigorously opposed or counteracted by introducing amendments to the medical practice act of the state, giving the State Board of Medical Examiners power to examine and license any persons really competent to do such work

An Osteopathic Amendment

The *Post Graduate Monthly*, published in New York City, makes the following editorial comment regarding an amendment to the New York medical practice act, introduced at the present session of the legislature

Col D C Robinson of Elmira, a member of the Assembly, has introduced, by request, a remarkable bill into the legislature, which by changing one word in the text of the medical unification law of last year, completely breaks down the safeguards of admission to the practice of osteopathy of only those who are even educated to be osteopaths much less to be physicians and surgeons The *New York Tribune* states that this measure is believed to be an effort on the part of some of the "bone setters," who say that their means of livelihood is being taken away by last year's law, to get a license to practice

Examination of a copy of this bill shows that the only change proposed is the substitution of the word *"or"* in place of *"and"* in the following sentence

It is further provided that any person who shall be actively engaged in the practice of osteopathy in the City of New York under date of the passage of this act, *and* who shall present to the Board of Regents satisfactory evidence that he is a graduate in good standing of a regularly conducted school of osteopathy in the United States, etc.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR JOHN H BLACKBURN DIRECTOR
BOWLING GREEN KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course]

Sixth Month.

SECOND WEEKLY MEETING

Secondary Anemia

Etiology (a) Hemorrhage Many causes Rate and amount of hemorrhage Age and sex Recovery, elements restored (b) Inanition Lack of quantity or quality of food Local causes Elements reduced (c) Excessive albuminuous discharges Chronic nephritis, prolonged suppuration, lactation, etc (d) Toxic agents Organic or inorganic poisons Metallic poisons, course, elements involved Acute and chronic infections Pyrexia

Microscopic Changes Red corpuscles, oligocythemia, changes in shape and color, staining reactions, nucleated cells Reduction and distribution of hemoglobin Changes in white cells, increase and reduction Reduction in blood plasma

Chlorosis.

Etiology Age and sex Heredity Unhygienic surroundings Copremia Emotions

Symptoms Onset complexion, respiratory and circulatory disturbances, digestive disorders

Microscopic Changes Oligocythemia moderate, oligochromemia marked Size, shape and irregularities of red cells Leucocytes

Pernicious Anemia.

Pathologic Anatomy Skin and subcutaneous fat Heart blood vessels and hemorrhages Liver, spleen, lymph glands General fatty degeneration, deposits of iron pigment Changes in bone marrow

Symptoms Insidious onset general symptoms, respiratory and circulatory disturbances gastrointestinal symptoms

Blood Examination Marked oligocythemia, color index macrocytes, microcytes, poikilocytes, normoblasts, megaloblasts

Leucopenia Changes in white cells Blood plates

Medical Education and State Boards of Registration

COMING EXAMINATIONS

CONNECTICUT State Board of Medical Examiners City Hall New Haven March 10 Secretary, Dr Charles A Tuttle 196 York St New Haven

CONNECTICUT Homeopathic Board of Medical Examiners New Haven March 10 Secretary Dr Edwin C M. Hall, 82 Grand Ave New Haven

CONNECTICUT Eclectic Board of Medical Examiners, New Haven March 10 Secretary Dr T S Hodge 16 Main St Torrington

IOWA State Board of Medical Examiners Capitol Building Des Moines March 10 12 Secretary Dr Louis A Thomas Des Moines

MASSACHUSETTS Board of Registration in Medicine Room 15 State House Boston March 10-12 Secretary Dr Edwin B Harvey Room 150 State House Boston

MAINE Board of Registration of Medicine State House Augusta March 17 18 (Note change of place from Portland) Secretary Dr William J Maybury Saco

Medical Colleges Raise Entrance Requirements.

Two more medical colleges, the Starling Ohio Medical College, Columbus, Ohio, and the College of Medicine of the University of Southern California, Los Angeles, have taken definite action in regard to the requirement of a year in a college of liberal arts devoted to physics, chemistry, biology and modern languages preliminary to the study of medicine in addition to a four year high school education, this requirement to begin on or before Jan 1, 1910 There now are 54 colleges which, by Jan 1, 1910, will be requiring one or more years of preliminary work in addition to a four year high school education There is every reason to believe that all the better colleges will soon adopt this requirement

North Carolina June Report

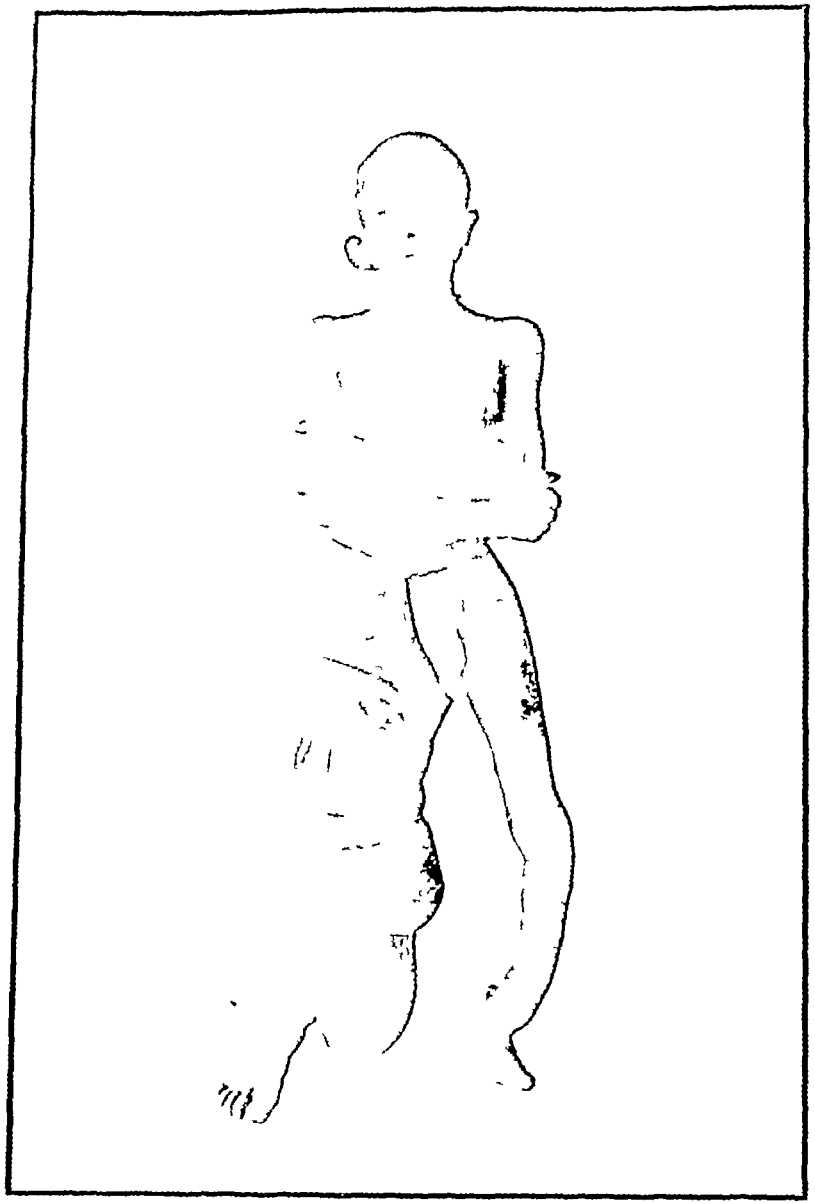
Dr G T Sikes, secretary of the North Carolina Board of Medical Examiners, reports the written examination held at Morehead City, June 5, 1907 The number of subjects examined in was 13, total number of questions asked, 90, percent age required to pass, 80 The total number of candidates examined was 133, of whom 112 passed and 21 failed The college and year of graduation for one candidate who failed was not obtained One reciprocal license was issued at this examination The following colleges were represented

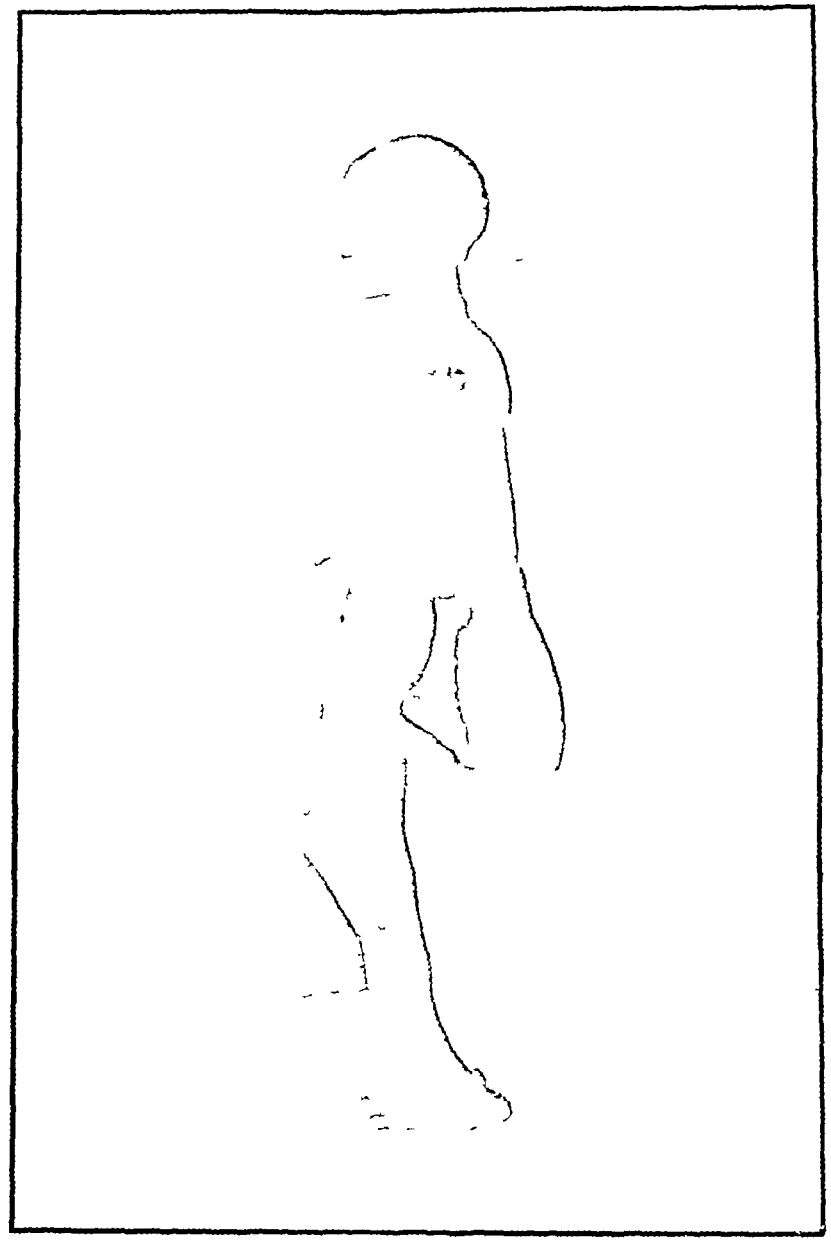
College	PASSED	Year Grad	Per Cent
George Washington University	(1905) 89	(1906) 86 2, 91 9	
University of Arkansas		(1897)	86 9
Howard University		(1906)	82 3
Atlanta College of P and S		(197)	82 86 3
Medical School of Maine		(1887)	84 3
University of Maryland (1885) 82 5	(1905) 90 7,	(1906) 86 8 87 4 88 3 89 1 93	(1907) 91 7
College of P and S Baltimore	(1905) 86 9,	(1907) 80 3 82 7 88 5	
Woman's Med. Coll of Baltimore		(1907)	92 1
Johns Hopkins Med School	(1905) 90	(1906) 90 9, 94 7	
Baltimore Med. Coll		(1893)	91 4
University Med Coll Kansas City		(1904)	80
College of P and S New York		(1907)	86 5
Leonard Med. School (1905) 82 5	86 3 90 1	(1907) 80,	
North Carolina Med Coll (1905) 82	(1907) 80 9, 80 1 82 3 85 5 85 5 85 7 87 89 3 91 4 92 5 93 89 7 82 3 82 1 82 1 82 4 84 3 88 5 89 4		
University of North Carolina (1902) 95	(1906) 80 1, 85 8 (1907) 85 5 87 87 5 87 9 88 5 90 4 91 1		
Eclectic Med. Inst. Cincinnati		(1891)	88 9
Univ of Pennsylvania (1897) 92 8	(1906) 87 5, 90 2, 91 4 96		
Jefferson Med Coll (1904) 89 2	(1907) 87 87, 87 5 87 4, 88 5 91 3 93 6 94 5 95 5		
Medico-Chirurgical Coll Philadelphia (1904) 81		(1906)	80 8
Western Pennsylvania Med. Coll		(1900)	87 1
Med. Coll of South Car (1900) 82 4,	(1906) 90	(1907)	80 7
Vanderbilt University		(1905)	88 9
University of Tennessee (1900) 81 7,	(1903) 82 7	(1907)	84 7
Chattanooga Med Coll	(1900) 80 9	(1907)	80 1
Tennessee Medical College		(1906)	91 9
Mehnery Med. Coll		(1905)	83 9
University of Nashville		(1907)	84 5
University of the South		(1905)	86 5
University of Virginia (1904) 83 4,	(1906) 9- 4	(1907)	90 7
Med. Coll of Virginia (1904) 83 4	(1906) shrdluemfwypemfwype		
Med Coll of Virginia (1904) 86	(1906) 84 7	(1907)	81
University Coll of Med Richmond (1897) 81 2	(1907 8- 4 84 5 85 3 85 1 86 5 87 5 88 89 1 91 4 91 4 91 6		

A CASE OF FIBROMA MOLLUSCUM.

By D F MICHAEL,

(M O A R Institute), Pusa





Deaths

Richard Douglas, M D Medical Department, University of Nashville, Tenn, 1881, Jefferson Medical College, Philadelphia, 1882, one of the South's most distinguished surgeons and a man of national prominence, died February 19, at his home in Nashville, his native city, aged 47 After graduation he returned to the city of his birth and entered into the active practice of his chosen life work He was early recognized as a man of unusual force and determination and soon became a leader in the profession Gynecology and abdominal surgery attracted him, and his energies were from the beginning directed along these special lines He went abroad to prosecute his studies, and after visiting the continental hospitals went to London, where he became the private student of Mr Granville Bantock When he returned to Nashville he organized a private class for instruction in gynecology and abdominal surgery, drawing his pupils from the two medical colleges and the profession in general He was called to the chair of gynecology in the medical departments of the University of Nashville and Vanderbilt University, which at that time were represented by a single faculty In 1895, when a severance of the two schools occurred, he became professor of gynecology and abdominal surgery and secretary of the faculty of the medical department of Vanderbilt University He was an able teacher, and combined a fulness of learning with a zeal and remarkable power of imparting instruction which quickly gained for him reputation and enthusiastic admiration



RICHARD DOUGLAS M D

While not a voluminous contributor to current medical literature, Dr Douglas was the author of a number of valuable papers on ectopic gestation surgical diseases of the spleen retroperitoneal growths and peritonitis His last important paper was on "Tubercular Peritonitis," read by invitation before the National Society for the Study and Prevention of Tuberculosis in 1906 His work on Surgical Diseases of the Abdomen" published in 1904, is an authoritative and exhaustive treatise having special reference to the diagnosis of intra abdominal lesions

Dr Douglas was a member of the Nashville Academy of Medicine, British Gynecological Society, of the American Medical Association, ex president of the Southern Surgical and Gynecological Association ex vice president of the American Association of Obstetricians and Gynecologists and ex president of the Tri State Medical Society of Alabama Georgia and Tennessee He was also one of the five American delegates to the International Medical Congress in Madrid in 1903

Though continuing in active practice Dr Douglas' health had not been good for a number of years The development of albuminuric retinitis in October, 1907 was the signal that his life's work was nearing its end Realizing the full significance of the symptom he at once gave up professional duties and in the seclusion of his own home awaited with unflinching courage the inevitable end

Isaac Ridgeway Trimble, M D University of Maryland School of Medicine Baltimore 1884 a member of the American Medical Association and of the Medical Journal Club Baltimore professor of anatomy and clinical surgery in the College of Physicians and Surgeons Baltimore since 1879 surgeon to the City Hospital and St Joseph's Hospital chief surgeon to the Baltimore & Ohio Railroad and United Railways Company of Baltimore, chief surgeon to the First Brigade, Maryland National Guard, at one time professor of anatomy and dean of the Woman's Medical College, one of the leading surgeons of the city, died in St Joseph's Hospital February 23, from septicemia due to an operation wound, after an illness of thirteen days, aged 47

George Silas West, M D University of Pennsylvania Department of Medicine, Philadelphia, 1897, a member of the West Virginia State Medical Society, vice president of the Eastern Panhandle Medical Society, and a member of the Berkeley County Medical Society, a prominent practitioner of Gerrardstown, W Va, died from pneumonia, February 20 after a very short illness, at a farmhouse at the foot of North Mountain, where he had made a professional call, aged 41

Myron Brundage, M D Rush Medical College Chicago 1901, of Shelley, Idaho, a member of the American Medical Association, house surgeon of the Wyoming General Hospital, Rock Springs, from December 1902 to November, 1903, formerly secretary treasurer of the Eastern Idaho District Medical Society, died while visiting friends at Nora Springs, Iowa, Sept 17, 1907, from valvular heart disease, after an illness of one year, aged 35

Robert Hill Dee, M D University of Buffalo (N Y) Medical Department, 1852, physician to the Six Nations Indians, Ontario, for 35 years, and for more than 20 years coroner of Brant County, Ont, a member of the medical societies of the State of New York and County of Cayuga, died from cerebral hemorrhage at his home in Brockport, N Y, January 26, after an illness of a few days, aged 78

Charles A. Brady, M D Ecole de Médecine et de Chirurgie Montreal, 1890, physician for four years and coroner for two terms of Cascade County, Mont, health officer of Great Falls for two years, one of the best known practitioners of northern Montana, died at the Columbus Hospital in that city February 14, after a prolonged illness, aged 44

Harry R Nettleton, M D University of Buffalo (N Y) Medical Department 1873 a member of the medical societies of the State of New York and County of Monroe, for more than a quarter of a century a practitioner of Rochester, N Y, died at his home in that city February 21 from cerebral hemorrhage after a brief illness, aged 59

Robert Luedeking, M.D University of Strasbourg, Germany 1876 a member of the Missouri State Medical Association and the St Louis Medical Society of Missouri, dean of the Washington University Medical Department and professor of diseases of children in that institution died February 29, aged 54 On March 8 the St Louis Medical Society will hold a special meeting in memory of Dr Luedeking

Francis M. Owens, M D College of Physicians and Surgeons, Medical Department Kansas City University Kansas City, Kan 1896 a member of the Kansas State Medical Society, a charter member and president in 1907 of the Sumner County Medical Society died at his home February 17, from pneumonia, after an illness of eleven days, aged 48

Archibald De Volney Chessrown, M.D Jefferson Medical College Philadelphia 1870, a member of the American Medical Association a member of the staff of Passavant Hospital Pittsburg and physician to the Allegheny County jail for 20 years one of the leading practitioners of the city died at his home February 20, from pneumonia, after an illness of ten days, aged 63

I wish to say a few words about the other diagnostic methods So far as I know, it was Dr Napier who first discovered the "Aldehyde test' in kala-azar cases The appearance of the coagulum is different from the gel' obtained in syphilis It appears to be one of the most valuable tests especially in fairly advanced cases of kala-azar which we ordinarily get in hospitals The reaction has been reported to be negative in a few cases of very recent infection Napier's technique is that he draws about 5 c.c of blood and allows the serum to separate He then puts 1 c c. of serum in a separate test tube and puts one drop of ordinary 40 per cent commercial formalin The serum turns solid like white of egg with a faint blush tinge

In this connection I may not pass unnoticed Ray's 'hæmolytic test.' He puts two drops of peripheral blood in a small test tube containing 20 drops of distilled water A large amount of precipitate is obtained by this method with blood of kala-azar patients Recent publications in the *China Medical Journal* shows that this test is particularly valuable for it is negative in various other diseases including malaria. The precipitate is not due to undissolved red blood cells as supposed by Ray, but due to precipitation of globulin of the serum In my opinion euglobulin is increased in the serum in proportion to antibody formation and this euglobulin which is increased in advanced cases is precipitated by addition of distilled water If my assumption is correct, a negative result will be obtained in early cases and in bad advanced cases where antibody formation is negligible.

I should mention here that Dr Brahmachari pointed out about seven years ago, that the globulin factor is increased in the blood of kala-azar cases But unfortunately he did not follow up his observation Now the question naturally comes to our mind whether the "aldehyde test of Napier has got any relation to the increase in globulin factor in the serum and it must be noted that the former test depends on mass action

The next point for discussion is the toxicity of the various antimony compounds So far as our experience goes there is nothing to choose between sodium or potassium compounds of antimony tartrate. But Manson-Bahr's Stibenyl has been tried in a few cases of kala-azar by Mackie Napier and other medical practitioners of Calcutta but unfavourable reports have been obtained Dr Brahmachari, however, recommends Urea Stibenyl whose toxicity he has shown to be 23 times less than that of tartar emetic Moreover this compound is non-irritant and can be given intramuscularly or even subcutaneously

The new antimony homologue of salvarsan which they call 205 is not available in the markets of India and we are anxiously waiting to see whether it will be able to replace the other antimony compounds now in use.

In this connection, I should not pass unnoticed the extreme danger in administering antimony to very weak, debilitated and anæmic patients In these cases I strongly recommend injection of human blood, properly tested against hæmolysis, either intravenously or intramuscularly This will rapidly restore blood and necessary complement Another factor in the treatment is to try to increase the polymorphonuclear cells which are destroyed in the process of struggle with Leishman-Donovan bodies Increase may be effected by administration of nucleates cinnamates or Muir's turpentine injection (T C C O) Some recommend injections of soamin as a preliminary treatment.

Lastly I would like to know whether the Leishmania bodies of tropical sores do not grow in presence of such septic organisms as flourish in the gut of sand-flies or Conorrhinus When such a statement comes from such an authority as Colonel Cornwall it should command our greatest respect. But I was under the impression that the most important difference in cultural characteristics between L donovani and L tropica is, that the latter can grow in septic environment whereas the former do not I am liable to correction in this respect.

Lieutenant-Colonel Greig, I M S (Simla), summed up the discussion.

He pointed out that this disease was a very good example of the necessity for prolonged and painstaking research. Even now the problem had not yet been settled, and in the case of medical research immediate results could not always be expected He referred to the great importance of the bodies which have been found by Mrs Adie, and how the considered opinions of other authorities on the subject would have to be sought before a final conclusion was reached as to their nature He pointed out the great importance of a complete cure in cases of kala-azar so as to prevent the possibility of infecting healthy people from those incompletely cured He emphasized the necessity of further investigation into this most important subject

(To be continued)

A Mirror of Hospital Practice.

A CASE OF FIBROMA MOLLUSCUM

By D F MICHAEL,

(M O A R Institute), Pusa

THE accompanying photographs of what appears to be a case of Recklinghausen's disease will be of interest The patient aged 18 years is a fisherman by occupation An accurate history of the case is difficult to obtain as he is very unintelligent and is alone in the world He states the disease is of 4 years' duration only but I am of opinion that this is inaccurate He is unduly short in stature and of poor physical development There is slight depression of the nasal bones and bulging of the thorax bi-laterally outwards and forwards over the abdomen Compensatory lateral curvature of the dorsal spine is also present Distortion of the lower limbs, the left tibia being sabre-shaped, and the enormous size of the tumours, are very well depicted in the photos In addition to several small tumours at the back of the right ear, on the neck, and on the trunk, the largest hangs from the loose cellular tissue along the margin of the right iliac crest, and extends throughout its whole length involving the entire gluteal region on the right side as an enormous pendulous mass, soft and painless This continues round to the front of the right thigh, where apparently tumours of similar structure have combined forming several loose pendulous folds as far as the knee joint, which is free and otherwise normal Below the knee is another fairly large tumour freely movable and somewhat firmer in consistency than the others The anterior border of the right tibia can be distinctly felt through this tumour The genito-urinary organs appear to be normal and no disease of other vital organs can be detected Lt-Colonel N W Mackworth, M B, F R C S (E), I M S, Civil Surgeon Muzzafarpur, to whom I showed the case, was of opinion that surgical interference was out of the question

NOTE.

With reference to the notes on "A Cyst over the Sternum" which appeared in the March number, 1922—p 99—para. 2 'The growth started two days ago" should have been "The growth started two years ago"

Joseph N. Leitensdorfer, M.D. Missouri Medical College, St. Louis, 1871, died suddenly at his home in Milo, Mo., February 9, from heart disease, aged 60.

Onesimus Michaud, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1873, of Clifton, Ill., died at L'Erable, Ill., February 13.

Joseph Wade de B. La Pierre, M.D. Ecole de Médecine, Paris, France, 1857, formerly of Minneapolis, died recently in Mattawan, Mich.

William Cavins (Years of Practice, Ill.), 1877, died at his home in Raritan, Ill., February 5, from pneumonia, aged 71.

Death Abroad.

C. von Voit, M.D., until recently professor of physiology and director of the Physiologic Institute at Munich, died January 31, of miliary tuberculosis, aged 77. He had been connected with the university for forty-five years, and has always been one of the leaders in physiologic research and teaching. With Pettenkofer and Buhl, he founded the *Ztschr. f. Biologie* in 1865, which has contained most of his works on metabolism and nutrition.

Book Notice

THE PANCREAS: ITS SURGERY AND PATHOLOGY. By A. W. Mayo Robson, D.Sc. (Leeds), F.R.C.S. (Eng.), London, and P. J. Cammidge, M.B. (Lond.), D.P.H. (Camb.), London. Illustrated. Cloth. Pp. 546. Price, $5.00. Philadelphia and London: W. B. Saunders Company. 1907.

The present monograph by Robson and Cammidge is the successor of a previous volume by Robson and Moynihan on the same subject. The association of a surgeon whose experience in the treatment of diseases of the pancreas is as large as that of Robson with an expert physiologic chemist has resulted in a volume which is destined to take first rank in treatises on this subject. As stated in the preface, there seems to be an impression in the minds of nearly all members of the profession that diseases of the pancreas, excepting some of the grosser lesions, are unrecognizable during life but a careful perusal of the chapter on "General Symptomatology and Diagnosis" should leave no doubt as to the presence or absence of pancreatic trouble in any particular case, and in the larger majority allow of a definite opinion as to the nature of the lesion.

As the authors state, one of the most important practical results that has followed from modern observations on the pancreas is the recognition of the very close similarity of the symptoms of cancer and chronic pancreatitis in the head of the gland. Of great value throughout the book is the bibliography at the end of each chapter. The publishers have greatly aided the authors in supplying an excellent quality of paper and very clear print.

The chapter on "Comparative Anatomy" is one of the most thorough which have ever appeared on this subject. Very few typographical errors occur in the book. On page 81 Lydia De Wit is referred to alternately as he and she. In the chapter on histology the subject of the islands of Langerhans is discussed in a most exhaustive manner. The reviewer is heartily in accord with the statement on page 127 that post mortem records can not be relied on for precise information as to the relative frequency of diseases of the pancreas. It is difficult to judge in the postmortem room on account of the rapid changes that take place in the organ at or after death in some 50 per cent. of cases as the result of a process of auto digestion. Quite novel and interesting is the reference to a condition known as pancreatic infantilism, in which the organ is unable to keep pace as the result of either congenital atrophy or of syphilitic fibrosis, with the metabolic needs of the body.

The chapter on "Chemical Pathology" gives the results of some of the most extensive original work which has been performed in connection with diseases of the pancreas. An interesting observation on page 225 is that the presence of biliary secretion is not sufficient to insure a return of the normal color of the feces when the pancreatic juice is still absent. The conclusion in regard to the so-called Cammidge pancreatic reaction is that the authors obtained a positive reaction in 75 and a negative in 125 cases of pancreatic disease.

The chapter on "Symptoms and Diagnosis" will prove to be of the greatest value both to internist and surgeon. The subject of pancreatic diseases is still a borderline one. The report of cases of acute pancreatitis and of abscess of the pancreas on pages 401 and 409 respectively, show the progress which has been made in the surgery of this organ. Two of four cases of acute pancreatitis recovered, and five of six cases of abscess. The clinical cases which are used to illustrate the different phases of pancreatic disease are very helpful. The description of the details of exposure of the head of the pancreas and common bile duct will be of great aid to surgeons. Robson is a warm advocate of the use of calcium chlorid as a prophylactic against hemorrhage.

Taken altogether the present volume may be considered to be the most thorough treatise on this subject which has appeared in any language up to the present time.

Society Proceedings

COMING MEETINGS

Association of American Medical Colleges, Cleveland, March 16-17.
Medical Society of the Missouri Valley, Lincoln, Neb., March 19-20.

PHILADELPHIA BRANCH AMERICAN PHARMACEUTICAL ASSOCIATION

Regular Meeting, held Feb. 4, 1908.

The President, DR. JOSEPH P. REMINGTON, in the Chair.

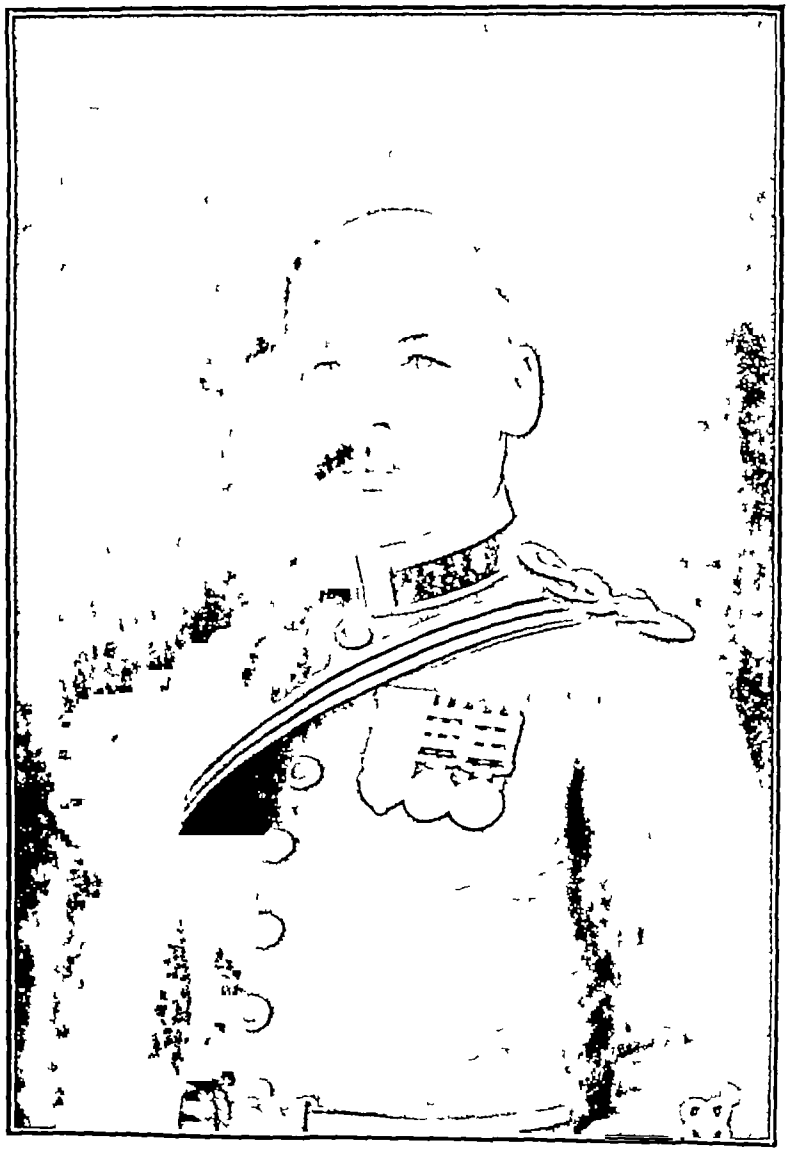
The Relation of Medical Practice Acts to Contagious and Infectious Diseases.

DR. HENRY BEATES, JR., stated as a fundamental principle for governing the practice of medicine by physicians and counter prescribing for pharmacists, the economic doctrine that wherever individual rights and the rights of the community at large or a majority thereof, conflict, the individual rights must yield. He called attention to the present statutory regulation of the practice of medicine and the development of the present condition, and stated that the legality of counter prescribing by pharmacists, depended on whether or not it amounted to a practicing of medicine, assuming as a definition of "practicing medicine" "the treatment of disease." Pharmacists who prescribe over the counter for the treatment of contagious and infectious diseases without being licentiates, are guilty of misdemeanors. He directed particular attention to the dangerous practice of the pharmacists prescribing injections or bougies for the treatment of gonorrhea which, unless he is perfectly familiar with the urethra and its functions and makes a proper examination thereof, is apt to become deeper seated, and in the case of females may extend to the offspring, producing blindness or other conditions. In conclusion, he emphasized the fact that no one has a right to assume the responsibilities of treating disease, unless he is qualified as the statutes of the state demand.

Gonorrhea.

DR. A. A. UHLE claimed that the transmission of gonorrhea is due largely to the fact that young people are not properly educated in regard to the procreative processes and the genital organs, receiving much of their information in this regard from older companions and quack literature. He stated that in large cities 8 per cent. of the adult male population have at some time suffered from the disease, and that 45 per cent. of the females suffering from the condition are infected through their husbands. There are 10,000 people in the United States and 30,000 in Germany blind from gonorrheal ophthalmia. Gonorrheal vulvovaginitis is one of the most prevalent phases of the disease among young girls in hospitals, and is one of the most difficult to eradicate. During the year 1903 out of 67,643 men in the United States Army, 9,167 were at some time in the hospital suffering from some form of venereal disease, resulting in a financial loss to the taxpayers of $400,000. He called attention to the prevalent idea that gonorrhea is most fre-

In Memoriam



The Late Major-General W H B ROBINSON C B, K H S, I M S
Surgeon-General with the Government of Bengal

[*From a photograph taken about* 1906]

but also for the purpose of making plain the strength of the witness' grounds of knowledge and the reason of trusting his belief. Although one holding a license to practice medicine and surgery may, by reason of that alone, be sufficiently an expert to testify as to the probable effect of certain injuries, the fact that he has had unusually great practical experience in the particular matter as to which he testifies would undoubtedly add somewhat to the weight of his testimony, and it is a legitimate and proper method of strengthening his testimony, one tending to the doing of substantial justice.

Large Awards for Personal Injuries.

The Supreme Court of Minnesota, in the case of Whitehead vs. Wisconsin Central Railway Co., affirms a judgment for $30,000 in favor of a brakeman 27 years of age who was so injured that his right leg was amputated three inches above the ankle, and his left leg three or four inches above the knee. The original verdict was for $35,000 and the court says that, while it was high, it is not disposed to disturb it on the ground that it was so excessive that the jury must have been actuated by passion and prejudice, nor on the ground that $30,000 to which it was reduced by the trial court, was any more than just compensation for the injuries sustained.

Likewise the Court of Civil Appeals of Texas, in Waters Pierce Oil Co. vs. Snell, affirms a judgment for $30,000 for injuries sustained by a boy 18 years of age who was badly burned about the face, neck, chest, arms and hands.

And the Supreme Court of Appeals of Virginia, in Southern Railway Co. vs. Smith, affirms a judgment for $15,000 damages in favor of a yard foreman and station agent for the loss of an arm.

False Representation as to Being Cured of Epilepsy Not Ground for Annulment of Marriage

The Supreme Court of Illinois says, in the case of Lyon vs. Lyon, where the annulment of a marriage was sought for alleged fraud, that the fraud charged was that the defendant falsely represented that she was entirely cured of epilepsy and had no attack of it in eight years. But the court thinks that a decree was properly refused. So far as her being entirely cured was concerned that was essentially a matter of judgment and opinion. The false representation of fact was that she had had no attack of the disease for eight years. The fraudulent representations for which marriage may be annulled must be of something essential to the marriage relation—of something making impossible the performance of the duties and obligations of that relation, or rendering its assumption and continuance dangerous to health or life. Concealment of the fact that the woman had previously been insane has been held insufficient to justify a decree of nullity of marriage. So has concealment of kleptomania. Also concealment by a woman of unchastity prior to marriage. The case of Could vs. Gould, 78 Conn. 242, is not inconsistent with these rules, though it was there held that concealment of epilepsy was such a fraud as would justify a decree of divorce under the statute of the state forbidding marriage or sexual intercourse by or with an epileptic under penalty of imprisonment.

Right of Health Commissioner to Sit as Member of Board of Health

The Supreme Court of Missouri says that, in State, on the relation of Parker Washington Co. vs. City of St. Louis, it was contended that the health commissioner was disqualified from sitting as a member of the board of health, when before the board met, in the written notice issued by him to the relators, calling them to appear before the board to answer the charge as to their works being a nuisance, he stated that in his opinion the works as operated constituted a nuisance and were detrimental to the public health. It was contended that in a proceeding of this kind the party to be affected is entitled to the same degree of impartiality and freedom from preconceived opinions in the members of the board as the law prescribes for a juror who is to try a cause in a court of justice. But the court does not agree to the proposition. Proceedings of this kind from necessity, it says, must be conducted with less strictness than the trial of a lawsuit in a court of justice. Such proceedings must be conducted honestly and fairly, and with good common sense, but not necessarily with judicial strictness. If a juror has formed or expressed an opinion in a cause to be tried, the court puts him aside and calls another, but, if it puts the health commissioner aside, whom will it call in his place, and if several other members of the board have seen the object complained of, and have formed the opinion that it was a nuisance and said so, how is the city to proceed to condemn it? The health commissioner is a city officer exercising duties appertaining to his office alone, independent of his membership in the board of health. But he is also a member of the board of health, and, in addition to his duties as health commissioner, he has the duties of a member of the board to perform. Under the provision of the city charter making it the duty of the health commissioner, when a matter injurious to public health is brought to his notice or comes under his observation to declare it a nuisance by force of his own official judgment and give notice to the offending parties to appear before the board and show cause why the offense should not be abated, he does not by discharging that duty disqualify himself from the performance of other duties imposed by law in furtherance of the same subject.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

February 22

1 Etiology, Prophylaxis and Therapeutics of Laryngeal Tuberculosis, Including Clinical Experiments with Bier's Congestive Hyperemia. S. A. Knopf and A. J. Huey, New York.
2 *Urticaria. E. B. Finch, New York.
3 Cystitis in Women. Report of Forty-Five Cases Studied Cystoscopically and Some Modifications of Treatment. L. McDonald, New York.
4 *Physical Signs of Incipient Pulmonary Tuberculosis. A. Abrams, San Francisco.
5 Carcinoma of Right Nasal Cavity and of Antrum of Highmore. L. Klemptner, Seattle, Wash.
6 *Cause and Prophylaxis of Sudden Death in Pneumonia. W. P. Worster, New York.

2 **Urticaria.**—According to Finch, angiospasm and angioparesis play important roles in urticaria. There must also be a peculiar susceptibility of the patient. The exciting cause may be either a pure neurosis or an autointoxication. Emotional causes, such as grief, act by their inhibitory effect on the process of digestion. Finch's treatment is based largely on the presence of toxemic conditions. He has found creosote the most useful drug, even aborting the disease, if given early enough. Four minims (0.24) in elastic capsules, with two minims (0.12) in enteric pills, should be given for an initial dose, followed every fifteen or twenty minutes with two minims (0.12) in capsule until effect. Salol in five grain (0.30) doses with five minims (0.30) of castor oil in capsule, after each meal, is often useful. Emetics often give prompt relief. Turpeth mineral (mercury subsulphate), five grains (0.30), mixed with a little water, has proved satisfactory, a high rectal enema often gives gratifying results. Sometimes antispasmodics and vasodilators must be resorted to. Atropin, 1/100 grain (0.00043), or nitroglycerin 1/100 grain (0.00065), hypodermically, may be given with caution. Amyl nitrite by inhalation is useful especially in cases with edema about the face and neck. Itching may be relieved with dilute vinegar and lotions containing carbolic acid, resorcin or thymol.

4 **Pulmonary Tuberculosis.**—Abrams describes a few original methods of diagnosis and observations. Lung cavitation is, in his experience, no index of an unfavorable prognosis. In health the percussion note of the lung is resonant during inspiration and dull or flat during forced expiration. In emphysema it is unchanged during the two phases of respiration. It is now recognized that this unchanged condition is pathognomonic of lungs predisposed to tuberculosis and of lungs already affected. Associated with it there is an extension of the lung border downward. Unchanged percussion resonance, hyperresonance and prolongation of the expiration are indicative of deficient expiratory force of the pulmonary sub-

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(*Vide* Presidential Address, British Pharmaceutical Congress, 10th July 1918)

14 Tuberculosis in Children.—Morse refers to the modifications necessary in dealing with tuberculosis in children. Malignancy and a tendency to dissemination are the chief characteristics in infancy. Restriction to a single organ is unusual. Localization is commoner later. The bone, serous membranes and lymphatics are more often involved than the viscera. The lungs are increasingly affected as adult age is approached. Children are more rapidly enervated by warm, moist climates and are less able than adults to bear exposure. They are, however, more amenable to treatment, being devoid of the harassing sense of responsibility that impels the adult to worry about his future and to attend to his affairs. They accommodate themselves better to institutional life, and discipline is easier with them. For practical purposes he divides tuberculosis in children into surgical, including scrofulosis and lymphatism, and visceral. For the former, seashore sanatoria are better than inland, and a temperate is better than a warm or cold climate, though they do well in both these conditions. At least a year's stay is necessary. Tuberculous peritonitis is practically to be classed as surgical tuberculosis. The dietetic treatment of tuberculosis in early life is essentially the same as in adult life. The drug treatment is purely tonic and symptomatic. Morse has no personal knowledge of the use of tuberculin in children, and statistics concerning it are scanty, but he sees no reason why, with due allowances, equally good results should not be obtained as with adults. He deals with two other classes—healthy children of tuberculous parents, who should be sent away, and children with latent tuberculosis or who are predisposed to it by other diseases, who should be given proper climatic or sanatorium treatment and plenty of country or seashore air. He gives directions for the management of tuberculosis in childhood to prevent its spread.

17 Gonococcus Infections.—Campbell states that it is increasingly evident that gonorrhea will have to take its stand as a general disease. A review of the literature shows that there is not a single organ of the body that may not be the victim of such an infection. The entire upper extremity, the parotid, the pleura, various joints, have all been affected. There is a gonorrheal pyemia, enlargement of the liver and icterus and a large abscess of the neck have been traced to gonorrhea. Gonorrheal peritonitis has been observed in the male. A distressing surgical complication is gonorrheal proctitis, most common in the female sex. A case has occurred with perforation into the vagina.

St Louis Medical Review

January

20 *Mosquitoes and Their Relation to Disease in Hawaii. C. S. Goodhue, Honolulu, Hawaii.
21 Roentgen Rays. J. W. Wainwright, New York.
22 Surgery of the Ureter. B. M. Ricketts, Cincinnati, Ohio.

20 Mosquitoes in Hawaii.—Goodhue, in a scientific study, says that in Hawaii mosquitoes are represented by two genera and two species, namely: (a) *Culex pipiens* (Van Dine) Common gnat of Europe. Thorax covered, narrow curved, golden brown scales, abdomen basal pale bands.—(Braun.) (b) *Stegomyia fasciata*, or *calopus* (Henshaw) Easily told by head and scutellum being entirely clothed with fat scales.—(Braun.) (c) *Stegomyia scutellaris* (Van Dine) Thorax one median silvery stripe so differentiated from fasciata.—(Ibid.) (d) *Culex pungens*, or *fatigans* (Goodhue) Common tropical gnat—resembles *pipiens*, differs in stem of first submarginal cell always being much longer.—(Braun.) All these are probably pathogenic. He describes these varieties with illustrations. With regard to the *Stegomyia fasciata* (properly *calopus*), this insect penetrated into the Hawaiian Islands only a few years ago, but in some places is now abundant. It hides in old clothes hanging in closets, in draperies, curtains, etc. There has never yet however been a case of yellow fever in Hawaii. This is probably due to the fact that there is difficulty in introducing a yellow fever patient there in a stage of the disease at which the mosquito can become infected. Good hue's investigations so far as they have gone, lead him strongly to suspect the *Stegomyia scutellaris* as being related to the periodical epidemics of influenza in these islands.

New Orleans Medical and Surgical Journal

January

23 Rewards of Medicine as a Profession. A. L. Metz, New Orleans.
24 *The Obtuse Angle in Elbow and Elbow Joint Fractures. J. D. Bloom, New Orleans.
25 Fracture of the Humerus by Muscular Action. E. M. Williams, Patterson, La.
26 *What Surgery Should the Country Doctor Do and What Can He Afford to Neglect? E. D. Newell, St. Joseph, La.
27 Differential Diagnosis of So-called Chronic Rheumatism. E. S. Hatch, New Orleans.
28 Arterial Varix of the Femoral Vessels Operated on by Matas Bickham Method. H. B. Gessner, New Orleans.
29 *Removal of Hemorrhoids by Angiotribe Method. S. P. Delaup, New Orleans.
30 Rapid Method of Demonstration of the Spirochæta Pallida for Diagnosis. J. D. Weis.
31 Plastic Skiagraphy: Its Advantages. A. Granger, New Orleans.
32 Further Experience with Antidiphtheritic Serum in Nasal Diphtheria. H. Dupuy, New Orleans.
33 Present Status of Opsonins and Vaccine Therapy. C. C. Bass, New Orleans.
34 Second Popliteal Aneurism Operated on by Matas Method. H. B. Gessner, New Orleans.

24 Elbow Joint Fractures.—Bloom deprecates the deforming and functionless results with ankylosis that have resulted from the customary method of treating injuries to the elbow joint by a right angle setting. After ten days or two weeks of rest or immobility in the obtuse angle position Bloom suggests the substitution of a Stromeyer screw splint to favor functional movement, to dispel through capillarity the exuded material, and to insure a perfect result to the fracture and the functional membrane that lines the joint.

26 The Country Doctor and Surgery.—Newell refers to the difficulties that beset the young graduate when entering on country practice after a period of observation or assistance in well equipped hospitals with nurses, anesthetists, ample armamentarium, etc. The obstacles, however, are not so great as they seem. With a thorough grasp of principles and a certain power of adaptability much may be accomplished. Newell describes the simple arrangement used by himself for five years with pleasure, comfort and success, both to the patients and himself. His establishment has three rooms on the second floor of a small brick building, the rooms are large, well ventilated and have plenty of light, they all open into each other and are connected on the side by a gallery. The front room is used for office, reception and general business room, the second is the consultation and operating room, and the third is for the beds. There is water throughout the building, which is supplied by an elevated iron tank in the rear. There is acetylene gas in the building, which furnishes a beautiful light for operating at night, heats water for sterilization, and makes an ideal light for a reflector for nose and throat work. One colored woman attends to the rooms, assists in preparing patients for operation, assists during the operation, nurses the patients after the operation, and prepares their meals. This simple equipment can be had by every country doctor who cares to do surgical work, and without some such arrangement Newell does not believe that surgical work in the country is practicable. By this means the dread of emergency surgical calls has been entirely eliminated. Patients are usually brought to the surgeon, and even when he is called out, he ordinarily contents himself with applying a first dressing and having the patient brought to his operating room. The examples of the Mayos and Joseph Price demonstrate that good work is not necessarily dependent on marble floors, countless trays of instruments, and hordes of assistants. The country practitioner should be able to do all his own minor surgical work whether in general surgery, obstetrics, gynecology or special surgery. It is the minor operations, neatly, carefully and patiently done without pain, that spread the doctor's reputation and endear him to his patients. In a case of chancroid under the prepuce, for instance, complicated with phimosis the substitution of circumcision under local anesthesia for iodoform injections will make the patient his friend. Newell urges that the country doctor should fit himself to perform all the emergency operations of necessity, all the operations of obstetrics. On the other hand, he exercises a wise conservatism in cautioning with regard to operations not of instant importance and requiring more than ordinary skill. No matter what the craving toward this class of surgery, the

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little as possible As soon as the cervix is softened, dilated, the presenting part engaged, and uterine contractions marked, interference to end labor is indicated, and this should be done completely and rapidly, the uterus douched with sterile salt solution and packed with 10 per cent iodoform gauze Lacerations should be repaired at once if the patient's condition is such as to justify it. The eliminative treatment should be kept up until indications for delivery are present, if strength begins to fail, an ounce of whisky by rectum and four ounces of salt solution every three or four hours may be given Digitalin, to sustain the heart, and strychnin and atropin if pulmonary edema and heart failure are threatened may be desirable The patient is by no means safe from eclampsia after delivery The continuous and skillful inhalation of oxygen during eclampsia and after delivery is of decided value No patient is safe until at least ten days have elapsed after the eclampsia

Virginia Medical Semi Monthly, Richmond

January

57 *Treatment of Diffuse Suppurative Peritonitis S Leigh Norfolk
58 Advanced Surgical Methods on Nose and Throat and Why They Are Necessary C R DuFour Washington D C
59 Extrauterine Pregnancy W M Randolph Charlottesville
60 Case of Strangulated Inguinal Hernia in Infant J E Cannady Hansford W Va
61 Dionin in Chronic Atrophic Rhinitis and Chronic Dry Pharyngitis D D Wilcox Petersburg
62 *Germ Proof Qualities of Tiling C J Cox Washington D C
63 Principles of Surgery S McGuire Richmond

February

64 Diagnosis and Symptomatology of Cancer M M Pearson, Bristol
65 Aural Affections Dependent on Visceral Lesions and Functional Nervous Disorders J J Richardson Washington D C
66 A Plea for High Standard in Therapeutics. J N Upshur Richmond
67 Typical Case of Typhoid Fever in a Child Eight Years of Age Complicated with Intestinal Perforation and Hemorrhage L W Glazebrook Washington D C
68 Formaldehyd Disinfection H R Dupuy Norfolk
69 Exophthalmic Goiter C Jones Staunton
70 Lysis of the Drug Habit—Can It be Regulated? R L McMurran Portsmouth.

57 **Diffuse Suppurative Peritonitis**—Leigh eulogizes the Fowler Murphy method of dealing with suppurative peritonitis by operation for drainage, posture and rectal irrigation In his work the results have been gratifying He commends the method especially to physicians practicing in remote districts and holds that in appendicitis cases the patient should always be promptly elevated and kept on the right side Rectal infusion would be of service here also The posture and infusion would also aid in lessening the danger to puerperal infection He describes a method in use in the Sarah Leigh Hospital for elevating the head of the bed

62 A similar article appeared in the *Yale Medical Journal*, November 1907, and was abstracted in THE JOURNAL, Feb 8, 1908 page 433

FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

February 8

1 *Sleep and Sleeplessness A. Morison
2 *Sources of Wound Infection C B Lockwood
3 Is the Death Rate the Best Measure of Severity in Disease? T M Turner
4 Excision of Rectum for Carcinoma W A Lane.
5 Methods of Primitive Midwifery J I Hellier
6 Phosphaturia and Treatment of Disease by Conversion P Harrison
7 Hemopericardium Associated with Syphilis J L Baskin
8 Case of Acute Ascending Paralysis with Recovery C W Vining
9 Case of Enucleation of Uterine Fibromyoma During Seventh Month of Pregnancy Premature Labor Two Days Later H Williamson
10 Five Years Experience of a Reception House for Recent Cases of Insanity H C Marr

1 **Sleeplessness**—Morison discusses the factors that underlie sleep and wakefulness the discrimination of one type of insomnia from another the significance and prognosis of different varieties of sleeplessness, and the rational treatment of the condition

2 **Wound Infection.**—Lockwood discusses the disinfection of instruments, etc, the hands, for which he uses biniodid of mercury 1 in 500 in spirit, then 1 in 500 in water, repeated at least four times until the watery solution is absorbed into the depths of the skin, he also discusses disinfection of the skin of the patient and the environment of operation In the last, he deals with ventilation and the cubic space of the operating room, and particularly with the dust and dirt brought in on the garments and boots He recalls Gordon's experiments in the house of commons with the *Bacillus prodigiosus* in regard to which it is stated that the members carried this *easily identifiable microbe a distance of 576 feet*

3 **The Severity of Disease**—Turner argues that the death rate is not a reliable test of severity in disease, and suggests that the severity of the symptoms is a better test, particularly if cases are divided into groups or classes according to the severity of any symptom Death depends on two independent factors the severity of the attack and the strength of the patient, the latter, being also an unknown quantity must vitiate conclusions based on the former The only important argument in favor of death rates and complication rates as against criteria obtained by measuring the severity of symptoms is the risk of high personal equations in the latter, and this Turner considers to be not so great as most people assume

6 **Phosphaturia and Gonorrhea**—Harrison points out that in the treatment of chronic urethritis and mucopurulent discharges it has often been noticed that irrespective of the internal administration of alkalies, and often imperceptibly to the patient the urine has changed character and become assimilated to phosphaturia, hence the question arose whether the phosphaturic state of the excretion was inimical to the existence of the infecting bacillus A systematic examination of urine and other discharges for gonococci in patients with gonorrhea leads Harrison to the following conclusions 1 In a considerable number of instances just designated, and of undoubted specific origin, there was no evidence at the time of his examination that there was anything wrong with the urine or with any urethral discharge complained of, inconsistent with the phosphaturic state alone The examination showed how easily and frequently phosphaturia may counterfeit, and be treated for, a specific urethritis, and even be intensified by the remedies commonly used for the latter 2 The artificial production and temporary continuance of a state of phosphaturia might be utilized in the treatment of chronic gonorrheal infections All the prominent features of a phosphaturia responding to the usual tests microscopic and otherwise, by which phosphaturia is recognized, may be produced by the administration of alkalies This condition should be maintained for some little time and local applications be suspended *Usually, after a period of ten days or so, and as the phosphaturic condition gradually passes off under the influence of* altered treatment and diet appropriate to this state, no signs will be found such as were previously complained of There was a time when infecting urethritis—at all events in its earlier stages—was generally treated with alkalies though not for the reason Harrison now offers He expresses doubt whether by modern mechanical processes we have much improved on the older practice

British Medical Journal, London

February 8

11 Symptoms Diagnosis and Treatment of Tubal Gestation in the Early Weeks W Tate
12 Case of Ruptured Ectopic Gestation Occurring in a Rudimentary Horn of a Uterus Bicornis Unicollis H J Hicks
13 *Rigor Mortis in the Stillborn C H W Parkinson
14 *Use of Chemicals in Aseptic Surgery C B Lockwood
15 Splenomedullary Leukemia and Splenic Anemia J G Taylor.
16 Experiences in the Testing of Tincture of Digitalis S C M Sowton
17 Migraine T H B Dobson
18 Removal of Foreign Bodies from the Air and Food Passages D R. Paterson

13 **Rigor Mortis in the Stillborn**—Parkinson describes four cases of rigor mortis in the stillborn, from which he draws the following conclusions Rigor mortis may set in under certain conditions before labor and may pass off while the child is

Indian Medical Gazette.

JUNE

THE PROBLEMS OF KALA-AZAR

In India kala-azar, like the poor, is always with us Elsewhere in this issue will be found a series of papers and abstracts of papers read at the second day's proceedings of the Medical Research Section of the Indian Science Congress of 1922, constituting a symposium on kala-azar by many of the current workers on the disease in India Even this collection of papers, however, gives but a partial view of the difficulties in connection with the disease

Kala-azar being a disease of seaports and riverine areas we may presume that it was first imported into Eastern India by sea, and that the historical outbreak of 1882 at the foot of the Garo Hills was far from being its first appearance in this country Indeed, as pointed out by Rogers, Twining in 1835 described cases of fever in Bengal associated with cancrum oris and with an enormously enlarged spleen with frequently fatal dysentery, with enlarged abdominal veins and sometimes ascites, and tending, especially in children, to be associated with a marasmic condition and delayed coagulability of the blood—cases some of which appear almost certainly to have been kala-azar Exactly how widespread is the disease in India to-day it is hard to determine In Bengal to-day 2,000 villages are known to be infected Assam has for many years had its epidemic and endemic problem in Calcutta the more carefully the disease is looked for the greater the number of cases recorded whilst to the west kala-azar spreads into the United Provinces and has recently been encountered in Orissa, and in the south the limited areas of infection in Madras are well known

As treatment depends on accurate diagnosis the improvement of methods of diagnosis of kala-azar is one of the most pressing problems in connection with the disease Here recent work has yielded results of value Whilst spleen puncture and the examination of films and of N N N cultures from spleen juice remains the best method of accurate diagnosis, yet further subsidiary tests are of value In Madras, Patton has always claimed that some 90 per cent of cases will yield a positive finding of L donovani if a sufficiently careful search be made of peripheral blood films In Assam Mackie first shewed that the more thorough the examination of the peripheral blood the greater the percentage of positive findings whilst Knowles recorded a 45 per cent positive result on examination of peripheral blood by the adrenalin technique In Calcutta preliminary work has shewn that even without adrenalin some 15 per cent of cases give positive findings in blood films

Not only this but culture of the peripheral blood is to-day coming into greater and greater prominence as a measure of diagnostic value In a paper at the Science Congress of which a precis is given in another column, B M Das Gupta has shewn that peripheral blood culture yielded positive results in 33 out of 35 consecutive cases,—having failed only in two instances in both of which a considerable amount of antimony had been given Lastly, to spleen puncture culture of spleen juice and to examination and culture of the peripheral blood we may add Dr Napier's new aldehyde test As there has been some misunderstanding of Dr Napier's technique one may perhaps be permitted to emphasise that his test consists in the addition of one drop of commercial formalin to one c c of the patient's serum, and that nothing less than a firm, white, opaque coagulum in which the test tube can be turned upside down without its contents spilling is taken as a positive result Malarial bloods not infrequently give a semi-gel which is translucent in colour but quite unlike the "boiled white of egg" reaction of kala-azar serum Like so many laboratory tests recent work has shewn that whilst a positive reaction always means kala-azar a negative result,—especially in an early case—by no means excludes kala-azar

With so many tests available it is distressing to reflect on the thousands of cases which are to-day submitted to the long and tedious antimony treatment necessary to cure, without the diagnosis having been proved

Accurate diagnosis having been made, the next problem is that of treatment Here we are to-day still driven to have recourse to prolonged treatment by intravenous injections of sodium or potassium antimony tartrate Colloid antimony sulphide has given disappointing

43 Mediastinal Cancer Occurring Ten Years After Removal of the Breast, with Secondary Nodulation Well Distributed Over the Head and Trunk J S Mckendrick

Indian Medical Gazette, Calcutta

January

44 Medical Services in the Mutiny D G Crawford.
45 Critical Analysis of the Etiology and Symptomatology of the Three Day Fever of Chitral and an Analogy Between This Condition and Dengue R McCarrison
46 Forster s Vaccine Treatment of Dysentery W Gillitt.
47 High Mortality Due to Childbearing Among Burmese Women. J Entrican

Archives Générales de Chirurgie, Paris

January II No 1 pp 1 112

48 Coxa Valga and Its Various Forms P Mauclaire and E Ollvier
49 Case of Inflammation of Meckel s Diverticulum C Vlannay
50 *Venous Reflux with Superficial Varices L Chevrier

50 Importance of Venous Reflux for the Treatment of Varices—Chevrier calls attention to the importance of differentiating the clinical varieties of insufficiency of the valves of the veins in varicosity and the importance of the descending or ascending venous reflux as diagnostic signs The insufficiency of the valves in the saphenous vein is shown by Schwartz's sign—striking lightly on the dilated vein and looking at its outline against the light If the valves are insufficient a wave is seen to spread rapidly along the vein to a considerable distance while it is soon arrested if the valves are working normally Another test is to raise the leg passively as the patient sits up in bed his back supported The blood is massaged out of the leg and the leg is then lowered The blood will rush back into the leg filling all parts that are below the level of the heart For the Trendelenburg test the patient lies across the bed the legs pendant their entire length The leg is raised and the blood expelled by centripetal massage The leg is then abruptly lowered below the level of the bed and the patient is told to sit up at the same time The blood rushes furiously down the vein as the passive mechanical force of gravity is supplemented by the active pressure of the abdominal muscles This test shows the insufficiency of the valves of the saphenous A counter test is made by compressing the saphenous vein with the fingers applied flat just before the limb is lowered If the varices below fill up from the periphery very slowly or not at all the valves of the communicating veins must be functioning normally In the exceptional cases in which the varices fill up rapidly from the periphery the ascending reflux testifies to insufficiency of the valves in the branches connecting the deep with the superficial veins Clinically Chevrier finds three classes of varicosities 1 Superficial varices with descending venous reflux but no deep varices In this case the valve at the mouth of the saphenous vein is insufficient The varicose condition can be remedied by transplanting the saphenous into the femoral below the normally functioning valves of that vein This operation has been successfully done by Delbet, who calls it the "sapheno femoral anastomosis" The operation removes the cause of the varicose condition by supplying sound valves for the venous circulation 2 Both deep and superficial varices with ascending venous reflux In this case the indications are best met by extensive resection of the superficial veins, followed by the wearing of an elastic stocking Cases of this kind are extremely rare 3 Both deep and superficial varices with descending reflux In this which is the common type of varices ligation of the saphenous vein with partial resection is indicated but the ligature must be applied high on the saphena near its mouth If the ligature is applied too low it neglects an important tributary of the saphenous vein which may lead to the recurrence of the varicose condition as this branch is exposed to all the abrupt variations in the abdominal pressure It seems superfluous to apply several ligatures A single one placed at the right point aiming to take the place of the valve at the mouth of the saphenous vein answers every purpose. This treatment does not remove the cause as nothing is done directly to relieve the deep varices But the improvement in the superficial conditions tends to improve matters below In conclusion, Chevrier suggests ligation of the femoral vein to protect once for all the circulation in the leg from the influence of the sudden changes in the abdominal pressure Aseptic ligation of the femoral is not so dangerous as formerly supposed To facilitate collateral circulation through the anastomoses in the abdominal wall the saphenous vein should not be ligated near its mouth

Archives Générales de Médecine, Paris

January LXXXVIII No 1 pp 1 64

51 Solid and Cystic Tumors of Thyroglossal Tract. L. Bérard and A Chalier
52 Physiology of the Pancreas L Sauvé
53 Historical Sketch of Laennec P E Launois

Bulletin de l'Académie de Médecine, Paris

January 28 LXXII No 4 pp 109 128

54 The Neurotics of History (Les névrosés de l histoire) L. Nass
55 *Successful Treatment of Vascular Nevi with Radium L Wickham Degrais and Fournier
56 *Intestinal Occlusion Consequent on Removal of Uterine Fibroma J Boeckel

55 Successful Radium Treatment of Vascular Nevi—Fournier has been investigating the claims of Wickham and Degrais in regard to the complete cure of vascular nevi under the action of radium, and has found that their claims are substantiated He says that the cure of extensive nevi without a trace of disfiguring scars renders the method destined to supplant all other technics when the cosmetic result is of importance, while its simplicity commends it for general adoption The radium salt is mixed with a varnish and spread on a disc which is applied directly to the nevus The thickness of the varnish filter and the length of the application are varied for the individual cases A slight ulcerative reaction seems to be required for flat, superficial nevi while deeper ones require stronger action Prominent, projecting nevi are best treated by weak doses, frequently repeated which act without inducing appreciable reaction There is no destruction of tissue, to leave a defect, but the tissues are modified, and repair proceeds normally leaving a smooth regular surface, somewhat paler than the surrounding tissue but otherwise normal The application of the radium is entirely painless, the disc can be worn during sleep

56 Intestinal Occlusion Consequent on Removal of Large Uterine Fibroma.—The fibroma in the case reported weighed over twenty two pounds, and it had crowded the intestines up so high that even after removal of the tumor the transverse colon was held by adhesions and became kinked Threatening symptoms from this source were met by a second laparotomy, when the colon was incised each side of the obstruction, emptied and sutured the intestine was then drawn down to its normal place and fastened there The patient rapidly recovered.

Presse Medicale, Paris

February 1 XVI No 10 pp 73 80

57 Technic for Spinal Anesthesia (Rachistovalnisation) Chaput

Beiträge zur Klinik der Tuberkulose, Würzburg

IX No 1 pp 1 198

58 *Cutaneous and Ocular Reactions to Tuberculin and Other Clinical Methods of Early Differentiation of Tuberculosis (Ophthalmo- und Kutan Diagnose der Tuberkulose) A Wolff I isner

58 Early Differentiation of Tuberculosis by Ocular and Cutaneous Reactions and Other Tests—Wolff Eisner reviews the experience to date with these and other differential technics and experimental research and the practical conclusions from the findings in disease and in health which he gives in tabulated form He urges the keeping of careful records of each case as the findings in thousands of cases should be compared with the ultimate outcome of the cases He uses a blank form with columns for name age stage of the disease (I, II or III) fever bacilli, conjunctival reaction (day 1 2 3 4), control eye, eventual permanent reaction, repetition of test (same eye day 1, 2 3, 4 other eye, day 1, 2, 3, 4), cutaneous reaction (day 1, 2 3 4) eventual permanent reaction (? days), repetition (day 1 2, 3 4), tuberculin subcutaneously, by effects, postmortem findings or course of the disease A similar card is made out for the non tuberculous only in place of the column 'bacilli' the findings in regard to tuberculosis in the family are recorded (P *pater*, M *mater* Pr, *propinqui*) He believes that the conjunctival reaction is

of a true extra-human cycle, remains open to question Cornwall regards the "thick tail" and cyst as a reaction to unfavourable environment, and B M Das Gupta has shewn that a similar encystment sometimes occurs in drying up N N N cultures Finally (3) the Leishmania-like forms recently discovered in the salivary glands of bed bugs from the bedding of a suspected case of kala-azar by Mrs Adie have been examined by experts The experts are not agreed as to what these forms are but are unanimously of opinion that they are not Leishmania donovani Thus the case for the bed bug, after 17 years of work remains still 'non-proven", and if any further work is to be done on this insect it should be on lines of serial section cutting similar to the brilliant work of Mr C M Hutchinson on pebrine, and on infection of experimental animals by bugs believed to be at the infective stage

Putting aside the bed bug hypothesis, the first question with relation to transmission which arises is, "How does the parasite escape from the body?" Here examination and cultural work has shewn that L donovani is rarely, if ever, present in the cutaneous lesions associated with kala-azar and is apparently absent from the sputum, the urine and the nasal mucus It is present in the base of such intestinal ulceration as may occur but, although many forms simulating Leishmania have been found in stools by different workers, most of them are yeasts and it cannot be said with certainty that the parasite is ever passed in, at least, its usual form in the fæces Fæcal transmission may be a possibility but, if so, we have to look in the fæces for some new, and presumably sepsis-resistant form of the parasite Yet those clinicians most closely associated with kala-azar emphasise its close association with a general want of sanitation, and the possibility cannot be neglected The Sudan Commission are more in favour of a water-borne origin of the disease than of insect transmission Of intestinal parasites that might be transmitting agencies, the hookworm has been investigated by Christophers, Mackie and Knowles, with negative results If fæcal transmission be a possibility then we have still to discover new and unsuspected forms of the parasite

The fact that the peripheral blood is almost if not always positive, on culture, points to insect transmission But by what insect? Work on pediculi acarini, and mosquitoes has yielded no results Of insects apparently still worth investigation, there remain fleas, sandflies, Conorrhinus and possibly the Tabanidae If L donovani is a true herpetomonad—as seems to be the case—then presumably its life cycle is a simple one and consists of preflagellate stage (the phase in man) flagellate stage (the phase in some biting insect) and postflagellate stage (the phase infective to man) Here the work of Row on the infectivity of flagellate cultures to experimental animals emphasises the probability that it is some postflagellate phase of development that constitutes the true infective phase to man

Further there remain still other possibilities such as the possibilities of extra-human reservoirs of infection L donovani and other herpetomonads are scarcely to be distinguished from one another morphologically yet in the analagous case of the trypanosomes morphological similarity by no means indicates specific identity or even transmission by the same invertebrate hosts Also what is the exact meaning of the curious new disease recently described in our columns by Dr Brahmachari, and of which a still further case has now been reported by Dr S Bhattacharji? Here is something which is quite unique in the history of kala-azar The etiology of these cases seems to be in each instance similar A patient is suffering from true, visceral, kala-azar At some period during or immediately after treatment, whilst the parasites are scotched but not yet killed a cutaneous rash occurs—from any extraneous cause—(in one instance a secondary syphilitic eruption) The parasites settle in the petechial spots of the rash areas The patient, after due treatment, recovers from kala-azar He remains perfectly fit, with a normal blood picture, and no fever, and with negative findings on culture of the peripheral blood Yet the Leishmania parasites settled in the epidermis cause the production of soft granuloma tissue, and a year or two later we have the picture of a patient apparently in perfect health, not in any way suffering from kala-azar, and afebrile, yet covered from head to foot with lesions resembling those of nodular leprosy, but due to L donovani

sees the advertisements and wants to know about the preparations It is putting the cart before the horse to allow a new remedy to be freely sold until fatalities from its use compel official restriction of its sale, as has occurred with lysol, antifebrin, veronal, migrainin and others The Carlsruhe board of health has done some examining of this kind, and it found in 75 secret medicines examined that 48 were absolutely dangerous and 11 others dangerous in the hands of the laity Thoms and Zernik of Berlin have also been doing good work along these lines in the Pharmaceutical Institute but it is not equipped nor endowed sufficiently for experiments on a large scale The expense so far has been borne by private subscriptions, the German Apothecaries' Association contributing generously to the work Even thus handicapped, the institute has investigated since 1903, 49 new drugs and 162 "patent" and secret remedies The manufacturers supplied information in regard to 51, but it coincided with the analysis only in 33 instances Thirty eight of the remedies had already been investigated by others but in only 18 cases was the analysis confirmatory of their findings In several instances the work of the institute led to warnings on the part of the police department Henius then describes the workings of the Council on Pharmacy and Chemistry of the American Medical Association which, he says, is doing a similar work in America, and publishes in THE JOURNAL A M A, the results of its investigations, with the result "that the remedies which ring false do not get on the market." This Council on Pharmacy and Chemistry, he continues, has concluded an agreement with the Berlin Pharmaceutical Institute to exchange information and conclusions "If a remedy investigated here,' he adds is not approved, it does not get on the market in the United States, while in Germany it is still advertised and pushed without interference afterward as before" He remarks that this experience confirms anew the truth of the saying that a prophet is not without honor save in his own country The necessity for scientific supervision of commercial claims, he continues, is demonstrated by the experiences with eston iodovasogen, neu sidonal, iodofan—which contains 4 per cent iodin instead of 47 per cent stated in the circulars—and pyrenol He remarks in regard to atoxyl that it was on the market for years as "meta arsenic acid anilid" until it was discovered that it was not this but a sodium p amidophenyl arsenate, and that it contains not 38 but only 25 per cent arsenic It is most remarkable he says, how this drug masqueraded so long under a false name

Medizinische Klinik, Berlin.

January 26 IV No 4 pp 111 142

69 Atherosclerosis and Other Scleroses L Aschoff
70 Present Status of Neuron Theory M Verworn
71 Experiences with the Ocular Tuberculin Reaction (Ophthalmoreaktion) P Krause and F Hertel
72 *Measurement of Blood Pressure and Its Importance for Practical Medicine (Unblutige Blutdruckmessung) O Müller
73 *Therapeutic Injection of Air (Luftinjektionen) Loewenthal
74 *Tuberculin in After Treatment of Surgical Tuberculosis C Kraemer
75 *Alcohol Soaps (Alkoholseifen) K Gerson
76 Behavior of Red Blood Corpuscles in Progressive Anemia (Verhalten der roten Blutzellen bei der Biermerschen progressiven Anämie) F Hoch

February 2 No 5 pp 143 176

77 Conception of Neurasthenia R Ing
78 *Drawbacks and Dangers of the Ocular Reaction to Tuberculin R Collin
79 Retrograde Incarceration of the Intestine F Heller
80 Indications for Hypnotherapy J Trömner
81 Lumbar Puncture in Mental and Nervous Affections (Lumbalpunktion bei Geistes und Nervenkrankenheiten) W Seiffer
82 Diabetes as Consequence of Trauma (Unfall und Diabetes) J Zander
83 Action of Roentgen Rays on Blood and Blood Forming Organs (Wirkung der Röntgenstrahlen auf das Blut und die blutbildenden Organe) J Linser

72 **Measurement of the Blood Pressure**—Müller concludes this exhaustive study of the blood pressure with the statement that in order to have an approximately correct estimate of existing conditions it is important not to trust to any one method alone but to compare the findings with the sphygmomanometer the plethysmograph etc Only when the pulse is studied in regard to pressure current and volume do the results give an accurate general picture of the actual condition

73 **Injections of Air in Therapeutics**—Loewenthal explains the benefit from injection of air in neuralgia and in chronic inflammatory changes in the nerve trunks muscles ligaments and projecting bones, as due to the interposition of an air cushion between the inflamed tissues and the parts resting on them An air cushion applied outside spreads the pressure of the outer world over such a large surface that the sensitive parts feel it less The same thing occurs when air is injected over the aching part of the sciatic nerve, for example He repeats the injection of air once or twice a week as the injected air becomes absorbed Pain is relieved at once and final recovery hastened as the air loosens up the pathologic tissue and releases the nerve from neuritic and perineuritic adhesions The best results have been attained in sciatica and in coccygodynia It is an easy matter to inject air into the tissues over the coccyx, and this relieves the patient for six or seven days The results are not so constantly good in intercostal neuralgia He has not found that pure oxygen gives any better results than air alone, but experiments with carbonic acid seem to suggest promising results in this line, as the carbonic acid displays a stimulating though not destructive action on the nerve tissue

74 **Benefits of Tuberculin in After-Treatment of Surgical Tuberculosis**—Kraemer calls attention to the positive reaction to tuberculin so frequent after entire healing of surgical tuberculous affections, especially in children He believes that this indicates the persistence of a primary focus, and that it behooves the physician to eradicate this primary focus before dismissing the case as cured Otherwise the tuberculosis may flare up again and the patient prove a source of contagion for others During the last few years he has encountered forty patients with pulmonary tuberculosis who earlier in life had had some tuberculous process in the bones or joints, or in the glands of the neck or the genital organs These patients he asserts, might have been spared their later pulmonary tuberculosis if the disease had been thoroughly eradicated during the surgical stage The family physician and the surgeon should realize when confronted with a case of surgical tuberculosis that operative treatment is only symptomatic—no matter how extensive it may be—except in the rarest of cases The primary focus in some bronchial gland or elsewhere persists unmodified, it was the source of the surgical affection and it may prove the source for pulmonary or other lesions later, either by way of the blood or lymph glands or by encroaching growth The primary focus may and sometimes does heal but the physician should not hazard the patient's health or life on such a remote contingency The efficacy of systemic tuberculin treatment was emphasized, he adds, at the Convention of Sanatorium Physicians at Berlin last spring and at the Naturforscher Congress in the fall where the harmlessness and the usefulness of tuberculin were extolled

75 **Alcohol Soaps**—Gerson states that the use of tin tubes prevents evaporation of the alcohol in a soft 50 per cent alcohol soap and that soap of this kind used with finely pulverized sand dust, is an improvement in the technic of disinfection of the hands The sand dust prevents the evaporation of the alcohol and penetrates with it into the depths of the skin, adding mechanical disinfection to the chemical

78 **Drawbacks and Dangers of Conjunctival Reaction to Tuberculin**—Collin is an ophthalmologist and he expresses amazement at the heedless way in which tuberculin has been instilled into the eye with nothing to guarantee its harmlessness He points out that even in the hands of an expert it is difficult to be certain as to the amount of the drug that really reaches the conjunctiva and is absorbed when a solution is instilled into the eye As the amount of the tuberculin absorbed from the instillation is thus liable to vary the findings in the reaction become unreliable, negative findings may be the result of an insufficient amount of the tuberculin having reached the conjunctiva A specific reaction can be assumed only when it is certain that the eye has not been rubbed or scratched after the instillation and that the eye was free from any pre existing acute or chronic affection especially a follicular or trachomatous catarrhal condition The general

streptococcus To the medical man of to-day the conditions of 1864 seem almost incredible, —a state of affairs when sepsis was believed to be due to the influence of oxygen on wounds, when the best the operative surgeon hoped for was to obtain a wound bathed in "laudable pus", and when Syme, reputed the safest operator of his day, gave it as his reasoned conviction that all cases of compound fracture of the leg should be immediately amputated without any attempt being made to save the limb India, in common with every other country in the world, owes its delivery from so terrible a state of affairs to Pasteur and to Lister

From bacteriology he passed to protozoology, and in 1867 rescued the silk industry of the world from pebrine To-day in India the recent brilliant work of Mr C M Hutchinson of Pusa and his investigation of the special conditions associated with pebrine in the tropics and the measures necessary to deal with the disease, is an extension and elaboration of Pasteur's earlier work, and promises to set upon new foundations of hope the silk industry of India In 1881 Pasteur's almost accidental discovery of the organism of chicken cholera and of the variability of virulence of cultures of different ages led to his introduction of a vaccine for anthrax and to present day vaccine therapy This period was followed by one of widespread investigations, including the introduction of a vaccine for rouget, and the discovery of the staphylococcus and the pneumococcus

Finally at the age of 58 Pasteur commenced the work on rabies for which he is so justly celebrated To the layman, Pasteur's introduction of anti-rabic immunisation is the one outstanding feature of his life To the medical man, however, his work in crushing the idea of spontaneous generation of bacteria and his proof of the germ causation of many diseases are of far more fundamental importance The Pasteur Institutes of India constitute a tribute to his genius, yet, if they are to be worthy of their great and celebrated parent institution, they will always be centres of medical research work as well as institutions for anti-rabic immunisation

Modern workers on rabies, as will be seen elsewhere in this issue, are apt to view Pasteur s work on rabies more critically than his other achievements Yet its ingenuity is beyond question Dealing with a disease whose causative micro-organism remains still to this day unknown, he yet succeeded by animal experiment in elaborating a fixed and standard virus of maximal virulence for the rabbit Unable to grow the virus upon artificial culture media and to standardise his vaccine by any enumerative method, he yet succeeded in producing from the fixed virus spinal cords a standard course of anti-rabic immunisation by graduated doses of viruses of increasing virulence

For all time Pasteur's life will stand as a source of inspiration for medical men and research workers Part of the secret of his splendid labours lay in his incessant and tireless energy To students he would ever preach the gospel of hard work Partly perhaps his ingenuity in devising and controlling experiments led him to many of his discoveries Chiefly however he was carried to his greatest triumphs by what was sheer genius, the ability to grasp what others overlooked, that "flair" by virtue of which the genius succeeds where the man who only plods fails To the scientific research worker too free an exercise of the imagination is a danger to be avoided yet without imagination and the power to grasp at opportunity success is impossible It was a favourite doctrine of Pasteur that in the field of scientific research work, opportunity comes only to the man who is prepared for it To him purely scientific research work, regardless of whether it had or had not an immediate bearing upon commerce and industries, was the breath of life At Lille in 1854 he impressed upon his students the importance of the quest of truth for its own sake "Without theory" he said, "practical scientific work tends to become mere routine, by force of habit Theory alone can develop the scientific spirit Your especial business is to have nothing to do with those narrow minds who despise every discovery in science unless it has an immediate practical application" And he illustrated the point by a reference to Franklin, the great Arctic explorer who was once asked by a critic as to the value of discoveries of merely scientific interest "What is the use of purely scientific enquiries"? echoed Franklin "What is the use of a baby? Its future potentialities"

be deluded by too credulous anticipations Young physicians should be equipped with useful recipes instead of hoary theories It must be confessed, Hils adds that experimental pharmacology has wandered too far from the clinic but it recognizes this and it is now striving to remedy it Experimental chemico physiologic pharmacology must not take the place of systematic pharmacologic training but supplement and stimulate it Physicians trained to discriminate will not be so easily misled by the specious advertising methods of the promoters of new drugs or combinations of familiar drugs and will rate at its true value the literature they receive

95 **Prophylaxis of Kidney Stones.**—Klemperer reviews the scanty knowledge in regard to prophylaxis of phosphaturia and describes his clinical experience with measures to prevent formation of phosphate stones in the kidneys He mentions the efficiency of small doses of oxalic acid in this respect Phosphaturia may be the result of bacterial action and in this case energetic local treatment of the urinary affection is required with internal measures to render the urine bactericidal Aseptic phosphaturia may be the result of precipitation of the calcium phosphate from alkaline modification of the reaction of the urine, or from an excessive proportion of calcium salts When there is hyperacidity or hypersecretion in the stomach, an excessive amount of acid is retained in this organ which upsets the balance elsewhere the result is an undue proportion of phosphates in the urine although the absolute amount is within normal range In case of inability on the part of the intestines to eliminate the normal proportion of lime or when the kidney displays an excessive avidity for lime the resulting excess of lime salts in the urine may be much above normal limits with consequent phosphaturia and formation of phosphate stones and gravel It is in these cases—of which he has seen nine typical ones—the avidity of the kidneys for lime can be combated by restricting the food to contain not more than 0 5 gm (7 5 grains) of lime in the twenty four hours or by administration of 0 3 gm (5 grains) of oxalic acid with 3 gm (45 grains) sodium bicarbonate dissolved in 200 gm (℥viiss) water This amount of oxalic acid in the twenty four hours seems to be entirely harmless for the stomach kidneys and the metabolism in general as he shows by the tabulated findings in several cases Similar benefit was derived also from minute dose of bichlorid of mercury 0015 gm (1 40 grain) in water in the twenty four hours Neither of these drugs showed any effects when given to healthy persons in this dosage The symptoms in the cases of phosphaturia, aside from the presence of stones, were mainly those of neurasthenia and hyperacidity

96 **Dangers of Scopolamin Anesthesia**—Kionka reports experiences which demonstrate anew the difference in the reaction to scopolamin in different persons also that differences in the physical behavior of different specimens of scopolamin do not seem to affect its action The difference in the reaction is due to the peculiarities of the individual not of the drug and this difference in the individual reaction is most pronounced in the more highly developed species and probably also in pathologic conditions He states that scopolamin which is optically inactive does not change with age while all the optically active specimens—especially solutions—change their physical properties gradually losing their rotating faculty while the melting point drops Admixture of the dangerous alkaloid apoatropin can be detected, he says by adding a drop of a solution of potassium permanganate to a dilute solution of scopolamin In the presence of apoatropin even 1 part in 20 000 the fluid turns brown This reaction is liable to occur when a solution has been kept for some time even when previous application of the test had given a negative result It means in this case merely contamination with some organic substance, and this interpretation is correct sometimes under other conditions Ready made preparations combining scopolamin and morphin may deteriorate with age

97 **Treatment of Flat Superficial Cancer**—Lever has had occasion to observe some cases of comparatively small skin cancers apparently healing under Roentgen treatment and reported as "cures" Time revealed however, that the cancer was still at work beneath the apparently healed cicatrix, and when it broke through the growth was generally inoperable In other cases recurrence was soon observed He thinks that the lymph glands are liable to become involved during the long course of Roentgen treatment necessary for a cure For these and other reasons cited he declares that Roentgen treatment alone is justifiable only in case of basal celled cancer, the corium carcinoma In all other forms of cancer operative treatment is imperative, as they resist more effectually the action of the Roentgen rays The main point therefore is to differentiate early this special variety of cancer If with even the basal celled carcinoma, there is the slightest indication of hardening of any glands, then operative treatment is imperative unless contraindicated by age and weakness Operative treatment should be the rule for all other forms of superficial cancer He covers the defect with flaps of skin taken from the arm, epidermis is liable to shrink and shrivel All inoperable cancers, he declares, should be given the benefit of Roentgen treatment

98 **The New Trend of Obstetrics**—Düderlein refers to the greater prevalence of expectant management of childbirths, even with contracted pelves, and the revolution in regard to operative measures when intervention becomes necessary He believes that his technic of subcutaneous pubiotomy—which he has applied in thirty cases—is destined to revolutionize the indications for operation with contracted pelvis

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them A selection from these volumes will be made for review as dictated by their merits or in the interest of our readers

Vitality Fasting and Nutrition By Hereward Carrington Member of the Council of the American Institute for Scientific Research and Author of The Physical Phenomena of Spiritualism with an Introduction by A Rabagliati M A M D L R C S Hon Gynecologist and Late Senior Hon Surgeon Bradford Royal Infirmary Cloth Pp 648 Price $5 00 New York Rebman Co 1908

Laboratory Studies in Tropical Medicine By C W Daniels M B Camb M R C S Eng Director of the London School of Tropical Medicine and A E Stanton M D Tor M R C S Eng D P H and H Camb Demonstrator London School of Tropical Medicine Cloth Pp 191 with Illustrations Price $4 00 Philadelphia P Blakiston's Son & Co 1907

A Short Practice of Gynecology By Henry Jellett B A M D B Ch B A O (Dublin University) L R C P I Gynecologist and Obstetrical Physician to Dr Steevens Hospital Cloth Pp 518 with 310 Illustrations Price $5 00 Philadelphia P Blakiston's Son & Co 1908

Text Book of Ophthalmology By Dr Ernst Fuchs Professor of Ophthalmology in the University of Vienna Authorized Translation from the German Edition with numerous additions by Alexander Duane M D Surgeon Ophthalmic and Aural Institute New York Cloth Pp 908 with 441 Illustrations Philadelphia J B Lippincott Co 1908

Diseases of the Breast with Special Reference to Cancer By William F Rodman M D LL D Professor of Surgery in the Medico Chirurgical College of Philadelphia Cloth Pp 185 with 111 Illustrations Price $4 00 Philadelphia P Blakiston's Son & Co 1908

Psychology and Pedagogy of Reading By Edmund Burke Huey A M Ph D Professor of Psychology and Education in the Western University of Pennsylvania Cloth Pp 469 Price $1 40 New York Macmillan Co 1908

Ueber die chemischen Charakter des Befruchtungsvorganges und seine Bedeutung für die Theorie der Lebenserscheinungen By Jacques Loeb Paper Pp 31 Price 20 cents Leipzig Verlag von Wilhelm Engelmann 1908

Proceedings of the Fifty Fifth Annual Meeting of the American Pharmaceutical Association Cloth Pp 1081 Baltimore American Pharmaceutical Association 1907

Third Annual Report of the Trustees of the State Sanatorium at Wallum Lake R I to the General Assembly Paper Pp 31 Providence E L Freeman Co 1908

Seventh Annual Report of the Food and Dairy Commissioner of the State of South Dakota Paper Pp 173 Pierre Hipple Printing Co 1907

First Report of the Babies Dispensary and Hospital of Cleveland Paper Pp 68 with Illustrations Cleveland Britton Printing Co

Verhandlungen der Berliner Medizinischen Gesellschaft 1907 Vol xxxviii Paper Pp 572 Berlin Druck von L Schumacher 1908

Battle Creek Sanitarium System By J H Kellogg M D Superintendent Paper Pp 210 with Illustrations Battle Creek 1908

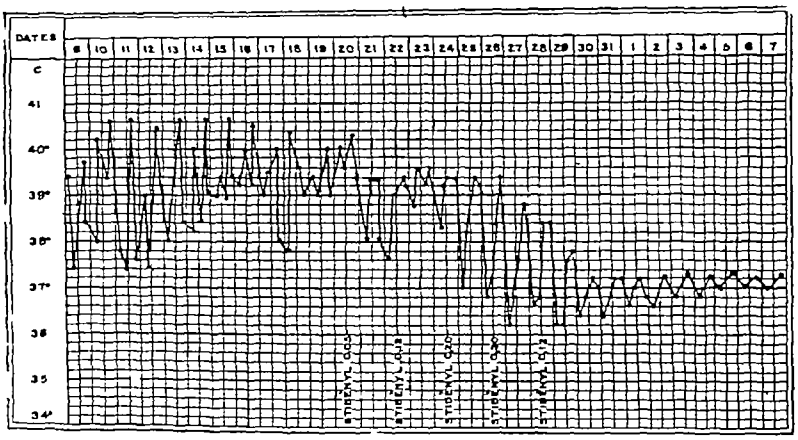
improvements in public health do not correspond in degree to the amount of money spent on them Major Barker's report shews what can be done in a well-organised community under full control by a policy of vigorous sanitation The results following on the reclamation of the salt swamp near the Female Jail render it unfortunate that the work of reclaiming the Phœnix Bay swamp had to be stopped in 1921, and that the inhabitants of Aberdeen, Middle Point and Phœnix Bay will remain subject to exposure to malaria

Last, but not least, Major Barker attributes much of the success in 1921 to the efficient work and keenness of his Junior Medical Officers and Sub-Assistant Surgeons

Current Topics.

A Case of Kala-azar contracted in Morocco, cured by Stibenyl

WE have received from Dr Monier Vinaid of Paris an accoount of a case of kala-azar cured by Stibenyl The original paper has already been published in the *Bulletin de la Societe Medicale des Hopitaux* of 21st January 1922, and we therefore publish an abstract of Dr Monier Vinaid's paper rather than the full MSS The patient was a young married woman about 25 years of age who had apparently contracted the disease in Morocco The fever commenced as a high remittent type lasting 24 days, this was followed by an apyrexial interval and then another period of high fever set in, which, on this occasion, showed the characteristic double or triple daily rise At the time the patient was seen in Paris by Dr Vinaid, she had been suffering from fever on which quinine had no effect for three and a half months and was emaciated and weak The spleen reached to the pelvis and she was beginning to show signs of bowel complications The diagnosis of kala-azar was proved by spleen puncture and the finding of L donovani The patient was at first treated for 10 days with intramuscular injections of tartar emetic and Castellani and Chalmers' mixture containing the same salt by the mouth, but with no improvement Intravenous injections of Stibenyl were then commenced on 20th July Doses of 0 05, 0 12, 0 20, 0 30, and 0 12 grammes were given on alternate days From this time onwards the patient's temperature fell to normal and her general condition improved In all 0 79 gramme had been given in nine days It was thought that further treatment was advisable and during the next two months injections were continued at four-day intervals The maximum dose given was 0 5 gramme and the total about 4 grammes The leucocytes numbered 2,700 per c mm on July 30th, 3,000 on August 22nd, and on November 31st, 8,500 The general blood picture improved in proportion The spleen was reduced to half its original size by November 21st During the course of treatment the patient showed no signs of intolerance to the drug, such as cough, nausea, vomiting or diarrhœa The temperature chart was as shewn



We quote Dr Monier Vinaid's case with special emphasis, since the experience of workers in India with Stibenyl has been far less fortunate The intramuscular and oral administration of antimony early in the case cannot be expected to have had much effect on the disease The total amount of Stibenyl given was in excess of what is usually regarded as sufficient for a cure The different results obtained in Europe and in India with Stibenyl suggest that there may possibly be some change in the drug in transit to the tropics In view of this completely successful case it would be of interest to secure reports from those who are using the drug in India

Intestinal Scarabiasis

READERS of the *Indian Medical Gazette* may remember the curious cases of "flying worms," reported in this journal in August 1919, and April 1920 The history of these cases, which apparently occur only among children, is that occasionally loose stools are passed, from which

When something goes wrong with your car, do not say it is no good, that it costs more than horses You probably have given the machine no attention, nor do you allow sufficient time to repair the car Usually the owner waits until something breaks before purchasing parts The moment a horse shows signs of straining or lameness, he is laid up for repairs The motor car, on the contrary, goes on until the break occurs, and then the owner puts the blame where it does not belong Locomotives and electric cars are looked after systematically, give the auto the same care and it will prove a good servant and a money making investment for the doctor

Again the Tire

The most annoying, the most ardor chilling, of all automobile troubles is undoubtedly tire trouble It is likewise one of the most expensive, yet nine tenths of all tire trouble and expense is easily avoidable A car can be so fitted with tires that they will wear double or triple the average length of time, so that punctures and blow-outs will be almost unheard of To secure these results use larger tires than necesary, and by so doing decrease the weight on them (especially the driving tires), have them made of good rubber and fabrics, have easy springs under the car, have a clutch that does not jerk and five tenths of your tire trouble is gone Keep them pumped up, don't



Fig 2—The auto that will compete with horse and buggy must occasionally tackle a proposition like this

ride them flat, don t let water or rust rot them, don't get the habit of making fancy quick stops or starts, and you will avoid another four tenths, leaving about one-tenth to luck

Water-Cooled Motors Preferred

Many things are best for certain purposes and worst for other purposes and this applies to air and water cooled motors The conditions under which a gas engine works vary quite widely at best, and a further variation does not improve the results The water cooled motor being kept at a fairly constant temperature does not vary so widely as the air cooled giving results more constant. This is the verdict that most makers have accepted and they prefer water cooled because of the lessened possibility of trouble The inner wall of the cylinder is exposed to a very high heat which travels through the wall as rapidly as the iron will conduct it It makes no difference to the engine how this excess heat is carried away With water cooling the walls will generally be kept cooler than by air cooling and a lower fire test of oil may be used an oil not quite so stiff and will therefore permit easier starting on a cold morning

One of the standard "anti freeze" solutions is as follows Three quarts of wood alcohol and one quart of glycerin To every gallon of this anti freeze solution add two gallons of water This mixture will not freeze at 40 degrees below zero

How to Avoid Skidding

Particular attention should be given to the matter of avoiding and controlling the phenomena of skidding This freakish and dangerous antic of the car, which consists in starting off at a tangent on a wet pavement, and possibly turning around before stopping, if, by good luck, the curbstone or another vehicle is not struck, may be avoided by driving slowly whenever the road surface is wet, and by religiously avoiding all abrupt turns and sudden applications of the brake It is well also to release the clutch when making a turn, so that no driving power is being applied to the wheels, and the car simply coasts smoothly To slow down, also, use the throttle where possible, rather than the brakes, and in general aim to drive as if you had no brakes at all It is a good plan to run as close to the curb as practicable, so that if a side slip should occur the car will not have time to gather momentum before it strikes the curb, providing it skids in that direction Never change gears on a slippery pavement if you can help it. If you must do so, engage the clutch very carefully

Skidding may be controlled, when it occurs, by turning the front wheels in the same direction in which the rear wheels (which are almost invariably the ones to slip) start to slide Thus, if the rear of the car suddenly swings off to the right, the front wheels should be turned to the right, which likewise deflects the front of the car in the same direction This equalizes the lateral movement fore and aft, and may be compared to the process by which a cyclist keeps himself upright by slight changes in his direction

One-Third the Time, One-Half the Expense, of a Horse

Formerly I had three horses, five carriages and a hostler to look after my turnouts I have discarded all these and I now do more work in one third the time, at one half the expense, and derive ten times the pleasure. I am an automobile enthusiast, and would not exchange my auto for the best team, outfit and coachman

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THE AUTOMOBILE AS A PHYSICIAN'S VEHICLE

H A STALKER, M D

POND CREEK, OKLA

WHEN the last Automobile Number of THE JOURNAL was published, I was one of those plodding country practitioners pondering the problem of more rapid locomotion Often I returned from a long, dusty drive to find I had lost more business in my office than my trip amounted to, saying nothing of the physical fatigue Finally I bought a two-cylinder, 10 horse power, water cooled, shaft drive run about (183*) which I used to learn on

I fooled along with this car for seven months, and finally succeeded in turning it back on the company I purchased a new car (203), 22 horse power, two cylinder, water cooled engine, which did not depend on air pressure to feed oil to its mechanism nor on gravity to keep up the water circulation, a pump having been installed in each one of these circuits which did the work to perfection

Dolce Far Niente

From that time until now I have not known what trouble meant, my car has been a perfect dream Mud, hills and sand are petty annoyances, meaning simply a slack in speed, if very bad, *nothing more* My car only requires 2½ gallons of water to fill pipes and radiator and the waste is so trifling that I do not look to it oftener than once a week, when driving continuously

Save Time and Do More Business.

To assert that it costs no more to run a car than to keep up a team is absurd But if one considers the time saved on the road and the consequent additional business made possible to say nothing of the lessened physical discomfort

* For key to automobile names see editorial explanation page 777

The longer a Pasteur Institute exists the smaller becomes its total mortality rate. This is due to such factors as an increasing knowledge of the facilities for treatment leading to the arrival of more and more persons who are less at risk, since those badly at risk will always be the first to come and those at little risk the last The Kasauli figures for instance show a steady decline in hydrophobia mortality from 5 1 per cent. for Indians in 1900 01 to 0 93 per cent for Indians in 1920

The authors conclude that crude death rates from rabies whether for treated or untreated should be corrected in accordance with the constitution of the population concerned that total mortality rates should be published as well as failure rates and that current ideas of the hydrophobia mortality occurring amongst the untreated are in need of revision

All interested in the rabies problem will welcome this valuable and most painstaking piece of work and will look forward to the publication of further parts of the memoir The authors are studiously restrained in their comments and conclusions but the trend of their evidence is unmistakable. If there is one piece of research work in medicine almost more urgently called for than any other it is an attempt to discover at any cost the true causative organism of rabies—a discovery which might well lead to revolutionizing present day methods of antirabic treatment and prophylaxis

The Threshold of the Kidney

By DR. W LANGDON BROWN, M D

Proceedings of the Royal Society of Medicine, March 1922 Section of Therapeutics and Pharmacology p 1

DR. LANGDON BROWN S paper is noteworthy as a lucid exposition of a difficult subject The function of the kidney being to keep the chemical composition of the blood constant the ways in which this is achieved are to-day only fully becoming understood Given three factors—the urine, the kidney and the blood,—if the condition of any two be known, that of the third can be determined Until recently attention was focussed in cases of renal disease on the composition of the urine, to day we realise that the composition of the blood is of equal or even greater importance. As pointed out by Ambard the kidney passes material into the urine in three ways —(1) Blood and lymph only appear when there is actual solution of continuity of the renal epithelium (2) Alcohol, acetone and the like escape by diffusion, without concentration occurring (3) Urea and other normal constituents are secreted in a higher concentration than that in which they are present in the blood, this process of concentration being proof of the secretory activity of the kidney The diffused substances are solvents of lipoids the secreted ones are not

Further the secreted substances fall into two groups — (*a*) those which are purely waste products and useless to cellular life, such as urea, ammonia, uric acid, and most drugs For these there is no threshold of excretion, (*b*) the second group are substances which may play a useful part in cellular life, such as sugar, sodium chloride, hæmoglobin and water In the case of such substances the kidney interposes a threshold in the way of their elimination, so that they only pass into the urine when their level in the blood exceeds this barrier For the substances for which there is a threshold it is the height of the threshold which matters, for those without a threshold it is their concentration in the blood that counts

Starting with the toxæmic kidney, we may suppose the threshold to have been lowered by a degenerative but not inflammatory change, the result of some toxin or other poison Febrile albuminuria is an instance of such a state severer forms being the albuminuria in poisoning by mercury and the toxæmia of pregnancy These conditions are not instances of true nephritis The threshold for globulin has been lowered and the amount of globulin present in the urine is in excess of that present with true nephritis Also the threshold for diastase is lowered, and there is a marked increase in the diastase output although it is not present in excess in the blood For substances either with or without a threshold the toxæmic kidney is unduly permeable, thus there is never an increase of urea in the blood and a decrease in the urine as in many forms of nephritis The practical result is that the prognosis in toxæmic kidney is different from that in acute nephritis, since in the former there is an opportunity for flushing out the kidney, elimination of toxins, and—as long as the patient can be kept alive—of ultimate and complete recovery

It is with regard to sugar that the threshold of the kidney has been most fully studied The normal threshold for sugar lies between 0 15 and 0 17 per cent In fasting the content of blood sugar falls normally to 0 1 per cent If carbohydrate food be now administered the figure for blood sugar commences to rise within about 20 minutes, reaches its maximum in about half an hour and then again falls Should the concentration exceed 0 17 per cent, glycæmia sets in and with a normal threshold this should be followed by glycosuria To investigate the threshold the plan adopted was therefore to take a fasting patient, examine the blood at 11 a m, give from 25 to 50 grammes of dextrose in solution immediately afterwards, and investigate the degree of blood sugar percentage every subsequent half hour, up to two hours after the administration. The results, plotted on a chart in terms of time intervals and degree of glycæmia show the behaviour of normal and diseased kidneys All sugars except lævulose cause a rise, but 50 and 100 gms produce hardly more effect than do 25 gms Starches also produce a rise in the blood sugar In health the difficulty or impossibility of forcing the blood sugar content above the normal threshold shows the high degree of efficiency of the renal mechanism, whilst the rapid return of the blood sugar figure to normal in health shows that the excess of sugar present must have been got rid of by storage. This storage in health is accomplished either as glycogen by the liver and muscles, or sometimes probably by storage as fat The two different methods however vary, storage as glycogen being like putting money into a bank where it is immediately available, storage as fat being like investment in war loan,—difficult to realise.

Passing from the normal to disease the author describes different types of cases of glycosuria in relation to the threshold for dextrose

The renal type of glycosuria is often congenital not infrequently familial and associated with an abnormally low threshold, though not necessarily with disease The rise and fall of the blood sugar curve is similar to that for health but is placed at a lower level Such patients are instances of Graham's 'diabetes innocens", they show a mild grade of glycosuria more readily than do healthy persons, but the blood sugar percentage is even lower than normal, the condition innocuous and no treatment necessary Type 2 are cases with a normal threshold, but intermittent or transitory glycosuria. The blood sugar curve is parallel to that for health but is placed at a higher level Here there is apparently delay in the storage mechanism coming into action, and transitory glycosuria until the storage mechanism is acting With such patients caution is indicated, the diet should be made sugar-free but starches may be allowed Here it is important to aim at delayed digestion and assimilation of carbohydrates

Type 3 is the type of glycosuria especially associated with obesity,—often latent glycosuria The blood sugar curve, starting from a normal level, shows a large and long continued rise. Glycogenic storage being perhaps defective one of two compensatory mechanisms may come into play, either the storage of sugar as fat or the raising of the threshold for sugar above the normal level

In Type 4 we have hyperthyroidism with diminished sugar tolerance, and sometimes actual glycosuria. The blood sugar curve shows an excessive rise with a delayed fall Carbohydrate storage is delayed and the degree of glycæmia high Such cases may not show glycosuria,

WOULD NOT PRACTICE WITHOUT AN AUTO

GEORGE KESSEL, M.D.

CRESCO, IOWA

THIS is my third season running an automobile, and I would not care to practice medicine without it The summer season is now one of pleasure in my practice instead of drudgery A country trip that formerly kept me away from my office four hours, now keeps me only two hours, and often less It is the same as if the day had forty eight hours instead of twenty four

More Speed Than He Dare Use

My car is a two cylinder, gasoline runabout (185), 18 horse power, water cooled, and weighs 1,600 pounds It has all the power I need, far more speed than I dare use, is simple and strong in construction, and very easily managed on the road It has given me entire satisfaction and much pleasure

Care of the Auto in Winter

The antifreezing mixture that has proved efficient and non injurious to the metals of radiator and pump is a solution of 25 per cent denatured alcohol in soft water during the early fall and about 33 per cent later In the winter season my machine is carefully housed The tires are removed and kept in a warm and dry place the radiator is removed and stored in a warm place, as it can not be drained completely of the mixture In the spring every part of the machine is thoroughly cleaned, polished and oiled The rims of the wheels are also well cleaned of rust and polished before the tires are replaced This is a good precaution and prevents rim cutting and otherwise injuring the tires

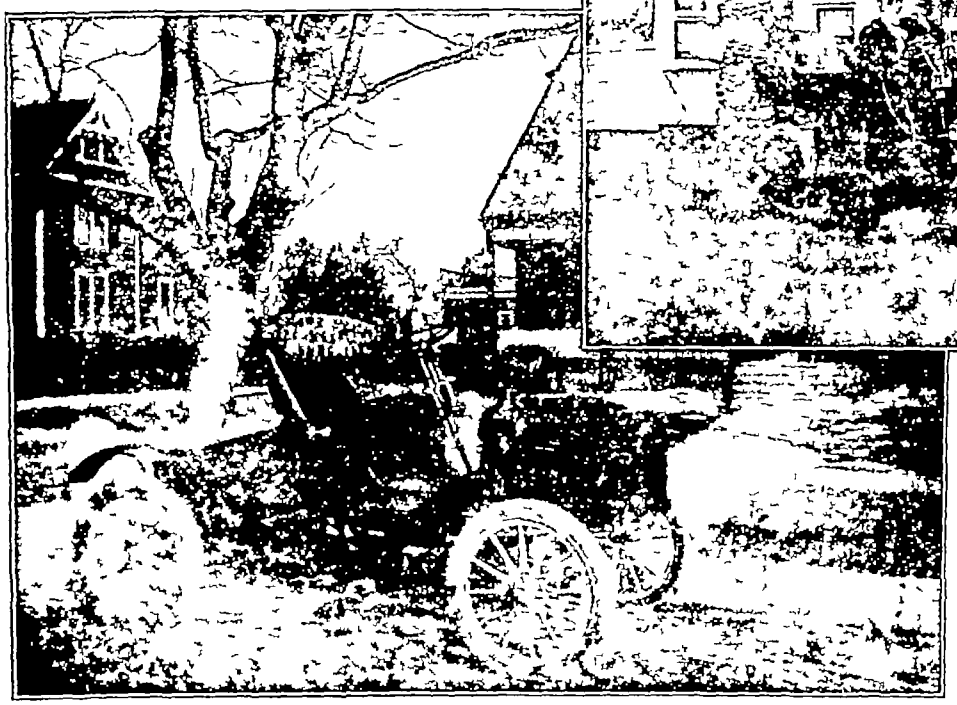


Fig 4.—This car (185) made country riding a pleasure instead of a drudgery for Dr George Kessel Cresco Iowa

The Auto Is for the Man with a Lucrative Practice.

The cost of running an automobile should never be considered It costs to buy an automobile, it costs to run one It is not economy to run an automobile unless your time is very valuable A man whose practice does not average more than $10 per day, for 365 days in the year has no business with an automobile

THE ANTI-FREEZING SOLUTION

HARRY SUMNER KISKADDEN, M.D.

DETROIT

BURSTED radiators, stripped gears, or broken pumps are not only a considerable annoyance, but big expense, and a proper cooling solution is an important factor in the winter use of a water cooled car

During the past three years I have driven three different cars and each with a different cooling solution In the first car (177) I used the regulation calcium chlorid preparation, this I found hard on the metal parts of the engine The rust became so thick that it was difficult to remove the solution in the spring The next winter in another car (178) I used alcohol, glycerin and water, this does not corrode or rust, but is objectionable on account of its sticky nature, daubing up the machine wherever a few drops are spilled, and the glycerin is expensive

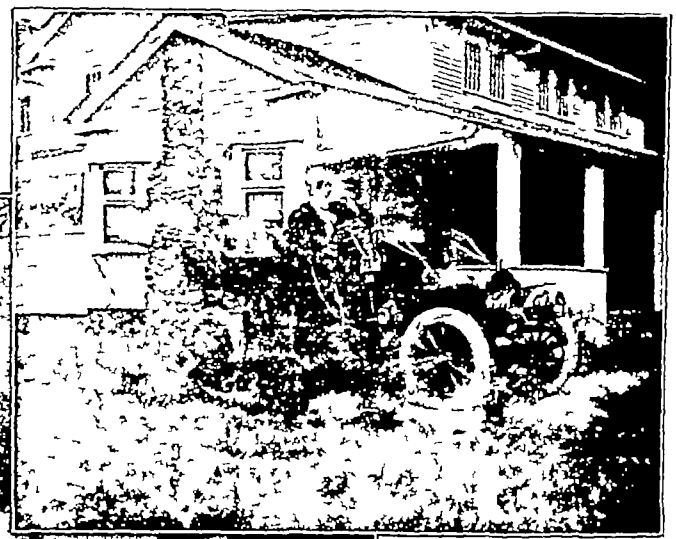


Fig 5.—The doctor sometimes has to take a back seat. The auto (178) of Dr H S Kiskadden Detroit, with Mrs. Kiskadden and Miss Maude Adams (Kiskadden), the actress, on the front seat.

This winter I use a 30 per cent solution of wood alcohol and water and find it has none of the objectionable features of the other two I tested this strength mixture at zero and it did not freeze—how much lower it will stand I do not know On account of the more ready evaporation of the alcohol, I would advise, when making additions on account of evaporation or leak to use a 50 per cent mixture and if the temperature is below zero, pure alcohol

BAD ROADS RETIRED THE MACHINE

R. A. QUIN, M.D.

VICKSBURG, MISS.

SEVERAL years ago I had the automobile craze, and about 1903 purchased a car (191) in New York City, because as a steam vehicle it would climb all the steep hills

I soon found it an expensive luxury, there being no skilled labor around to help me, and with no paved streets and but indifferent roads I have it now in my garage, resting peacefully have not used it for more than a year For hill climbing and rapid transit it is *par excellence*

frequently the result of diseases of the ethmoidal cells, but may occur as the result of sphenoidal infection One of the early ocular signs is a change in the perception of red and green in the formation of a scotomal ring which may be closed or broken A large percentage of headaches when an error of refraction has been eliminated, is doubtless of sinus origin As a rule, there are two frontal sinuses, but there may be but one, and in rare instances, there may be none It must be borne in mind that the frontal sinuses are subject to wide variations, both in size and conformity There are also the posterior ethmoidal and sphenoidal cells, anterior ethmoidal cells, and two maxillary antrums

In infection of the antrums, the frontal sinuses and the anterior ethmoidal cells, the discharge makes its way anteriorly, and is blown from the nose In infection of the posterior ethmoidal and the sphenoidal cells, most of the pus finds its way into the pharynx. Any discharge of pus from one nostril, especially if periodic in character, which smells and tastes fœtid to the patient, should always excite the suspicion of the doctor of the presence of an infected antrum Facial neuralgia is most commonly caused by diseases of the maxillary antrum Crusts on the middle turbinate are most common in ethmoidal suppuration, but may be present when there is a scanty discharge from either the maxillary or frontal sinuses or from the ethmoidal cells When the ostium is in the floor of the sinuses drainage is by gravitation, but when placed above the floor, the secretions are conveyed by ciliated epithelium

Empyemas of the sinuses, especially the frontal, are more common after epidemics of influenza than at any other time. Whether the *influenza bacillus* is capable of setting up a purulent inflammation or not, is difficult to determine. It is possible that in the intense engorgement of the nasal mucous membrane, a blocking up of the infundibulum takes place, and pus producing germs gaining access to the inflamed mucous membrane and give rise to the discharge. At the onset of the disease, the mucous membrane becomes greatly œdematous and a large amount of sero mucous is discharged The disease may gradually subside or the secretion may become purulent. Again, the discharge may go on to the chronic stage, and the mucous membrane hypertrophy, and become covered with granulation tissue and polypi.

Much relief can be obtained from spraying the nostril of the affected side with a two per cent. solution of cocaine, and a one in five thousand solution of adrenalin, followed by an application of a thirty per cent solution of Lunargen or Silvol applied on a small pledget of cotton and allowed to remain from ten to fifteen minutes in the nostril Ice bags may help to relieve pain This line of treatment will apply only to acute cases, whereas in chronic frontal *sinusitis*, the removal of the anterior end of the middle turbinate bone or a submucous resection will cure a large percentage of the cases In exceptional cases more radical measures may be necessary Puncture and irrigation of the infected sinuses may effect a cure, but when the case is chronic showing deep seated pathological lesions, it is but a waste of time The extraction of a tooth for drainage from the maxillary antrum cannot be too severely condemned, unless a diseased tooth or necrosis of the alveolar process is responsible for the discharge. This should be the only excuse for resorting to such unscientific procedure

Before resorting to radical operations, radiographic pictures should be made.

The Convalescent Depot as a Permanent Peace Organisation

By MAJOR G R. PAINTON, R.A.M.C.

Journal of the Royal Army Medical Corps February 1922 *p* 106

IN this excellent article Major Painton pleads for the retention of the military convalescent depot in times of peace He cites the all-too common case of Private X whom the doctors will not invalid whom the company officers have no use for, and who is detrimental to the regiment the man on the half-way list between sickness and health He suggests that the proper place for Private X is the convalescent depot the aims of such depots being to cover the latent period between sickness and health in the most profitable way to insure medical supervision during this period and to reduce wastage and unnecessary invaliding New arrivals are graded for one week as not available for employment later they become fit for moderate exercise, light duties, and recreational training later still for heavier exercises and guard duty and are finally discharged only when fit for full regimental duty Discipline in such depots should be maintained alcohol eliminated as far as possible pay granted only so long as the patient is "playing up" entertainment and recreation, such as a miniature rifle range, provided The most essential qualification for dealing with a British soldier is a sense of humour If such depots be properly run if sufficient care be exercised in the selection of their staff if malingerers be marked down but men who are genuinely anxious to get well encouraged then such depots, far from being an additional source of expense should save both funds and invaliding

The Epidemiology of Indian Relapsing Fever

By MAJOR F W CRAGG I.M.S.,

Transactions of the Royal Society of Tropical Medicine and Hygiene, 16th February 1922

MEDICAL men in India will welcome this resumé of our present knowledge of the epidemiology of Indian relapsing fever by Major Cragg—work which is very largely based upon his personal investigation and experiment The following précis is from the *British Medical Journal* of 18th March, 1922 —

"Major Cragg drew attention to the fact that overcrowding and dirt were almost universal from long-established custom amongst the peasant populations of India, and by favouring the spread of pediculosis presented many difficulties in dealing satisfactorily with the question of relapsing fever Moreover, the harbourage of lice, as a normal condition, in Major Cragg's opinion, robbed this important factor in the transmission of the disease of much of its significance. Louse infestation among the warmly clad races of Europe and Asia was highest in winter, but with the scantily clothed natives of Northern India, where the disease was endemic, relapsing fever reached its highest during the hottest months of the year Its distribution, most marked in the United Provinces and endemic in the Punjab, was by no means general, for it did not prevail in Bengal, Assam, and the southern part of India, largely rice-growing districts whereas its greatest prevalence was found in the wheat-growing tracts of Northern India, coinciding with the ripening of the spring crop In contrast to other parts of the world, typhus and relapsing fever were not associated in India, and Major Cragg was puzzled to explain the apparent absence of typhus The origin of the epidemic of 1917 was attributable to some common cause affecting numberless foci in the northern districts where the disease had previously been prevalent. By means of a "relapsing fever index," derived from the study of seasonal prevalence and special age incidence, the disease was defined as occurring more heavily in certain districts than others, with a duration of epidemic conditions amounting to about two years The outbreaks in Major Cragg's opinion, could not be explained by changes in the conditions of the people at the time of onset, such as exceptional poverty or movements of the population An underlying cause, therefore, had to be sought for in some additional and hitherto unrecognized factor Towards the solution of this problem and to confirm the work of French investigators, the aid of experiment was brought to bear Emulsified preparations of lice, collected from relapsing fever cases, were injected into five monkeys without producing any obvious illness However, injections of 2 c.cm of infective blood, containing

THE AUTOMOBILE IS THE THING

FREDERICK C WARNSHUIS, M.D
GRAND RAPIDS, MICH

SITUATED in a city of 100,000 inhabitants, we have a considerable number of paved streets, and an equal number of the remainder are graded Throughout the city and surrounding country there are a number of hills, some of which are fairly steep and long The surrounding country is more or less sandy My practice extends all over the city, and I occasionally make a call five or six miles out in the country Previous to last April I kept two horses to do my work. The average monthly cost of keeping the two horses was $45 per month

All Calls in All Weather and Never Been Delayed!

April 1, 1907, I purchased a runabout (104), for which I paid $725, including top, lamps and extras Since then I have

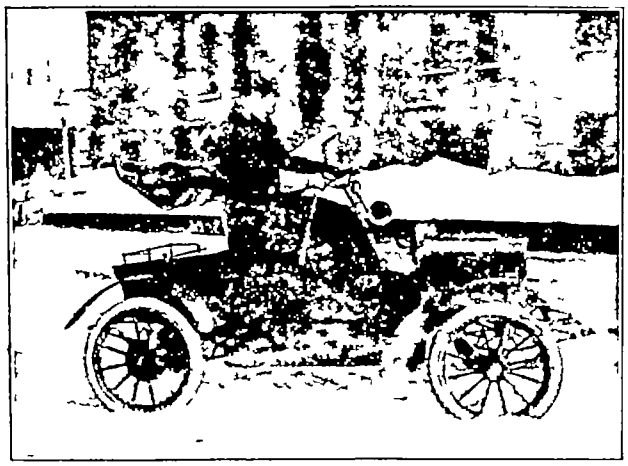


Fig 8.—Made all his calls in all kinds of weather and never been delayed—thus comments Dr F C Warnshuis Grand Rapids Mich concerning his car (104)

made all my country and city calls in it, in all kinds of weather, and I have never been delayed or hung up on the road My car will climb any hill, the majority of them on high speed I can make my calls in a shorter time than I could with horses I do not have to bother about hitching or blanketing neither do I get muddy and dirty getting in or out At night I am gone and back in the same time that it formerly took me to hitch and unhitch

Horses Cost $45, Autos $18, Per Month.

The car is a one cylinder, four cycle water cooled engine dry cell batteries, two speeds ahead and reverse chain drive, engine under the body easily accessible however, 12 h p speed 5 to 30 miles an hour Five gallons of gasoline will run me 100 miles One gallon of gas engine oil will last three weeks I run an average of 500 miles a month I oil my own machine and fill it with gasoline every morning, about ten minutes' work. Washing and polishing is done at the garage The average cost, including three new tires and all accessories and garage charges, has been $18 28 per month

I have just had my machine in the garage for examination and find that no part is overworn and all in as good condition as when new

In the seven months' ownership this is the first time a wrench has been put on the engine It has always run when ever cranked Four punctures are the only difficulties I have encountered My machine is not an exception There are others here that are doing the same good work and run a longer time

Advice to the Prospective Buyer

Now, as to the purchase of a new machine for a physician The simpler the engine the better Two or four-cylinder engines mean two and four times the amount of trouble and care over a one cylinder Four more spark plugs, four times as many batteries, four times as much oil, and also more gasoline A one cylinder, four cycle 10 to 12 H P (delivered) engine will take you anywhere as fast as you care to go

Have the Engine Under the Body

The engine should be under the body, especially in hilly regions, for the reason that with the engine under the hood in climbing hills the flow of gasoline is lessened to your cylinder and a weaker explosion and less power results I can climb hills on the high speed where other cars with two and four cylinders under the hood have to shift to low speed

No More Horses for Him.

To sum up, no more horses for me, for the following reasons

1 Calls made in a shorter time, more leisure for me
2 Night calls made in half the time, more sleep
3 No dirt getting in or out
4 No engine trouble
5 A saving of $25 per month
6 No worry about my horses or their overexposure to weather or irregular feeding hours

The auto is the solution of the doctor's problem of convey ance, and my machine (104) tops all the other makes on the market. This I have learned by personal experience, investigation and in conversation with other physicians owning other makes of machines

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A SUCCESSFUL INVESTMENT IN AN INEXPENSIVE MOTOR CAR

H M FERGUSON M D
MORRIS, ILL.

NOTHING tells the story to the country practitioner in its true light to better advantage than a candid statement from one who has tried the experiment and proved it out on a standpoint of money invested versus results

My personal experience has been confined to practice in a thriving country town, and has carried me a considerable distance into the outlying districts, over all kinds of roads, through good and bad weather, during the four seasons of the year After careful investigation, I selected an inexpensive, but what appeared to be an extremely durable, car, not only on account of the saving in the initial purchase, but with a view to subsequent economy in connection with the repairs and up-keep My report is, therefore, made from a practical point of view as applied to the country doctor

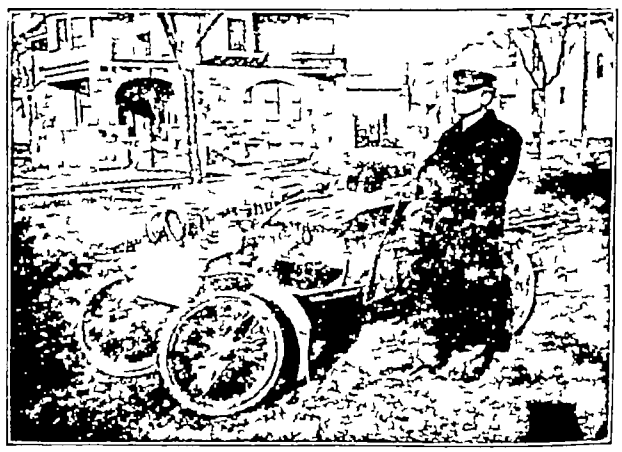


Fig 9 —The economical investment (126) of Dr H M Ferguson Morris Ill

My light weight car (126) cost $400, in addition to a few necessary extras in the way of equipment My professional neighbors were running more expensive cars and were disposed to smile, but they now agree that I made the best and most economical investment of any of them, and that my car is

Spirochæta pallida, one derived from a syphilitic chancre and the other obtained from the blood of a general paralytic, and with a spirochæte of a different order—*Spirochæta cuniculi*, which is the organism found in the spontaneous spirochætosis of rabbits Of the various bismuth salts tried (bismuth citrate, lactate, subgallate, oxyiodogallate, and other linkages) the one found to be best supported and to give the speediest results was the tartrobismuthate of potassium or sodium This salt, containing approximately 50 per cent of bismuth, was prepared according to the method given by Cowly,[2] and it was found to be well supported by the rabbit to the extent of 50 to 60 mg per kilo of body weight when administered subcutaneously or intramuscularly Intravenously the salt was much more toxic, as less than a tenth of that dose was fatal to the animal A suspension of the drug in olive oil, sterilizable in the autoclave without decomposition, was found to be less toxic than an aqueous solution When this was injected subcutaneously or intramuscularly into infected animals the spirochætes disappeared from the lesion on the second or third day, and rapid cicatrization followed Administration by the mouth or rectum gave poor results Applying the results to the therapy of human syphilis the authors soon discarded the use of aqueous solutions, as they caused pain and local reactions The same salt however, in oily suspension was much better tolerated when given intramuscularly, and though the action may perhaps have been slower they believe it to be more constant, more profound, and more lasting As the result of the treatment of a few cases in various stages of syphilis, Sazerac and Levaditi state that there is a rapid disappearance of spirochætes from the open lesions, and a cicatrization of these lesions in a few days The tartrobismuthate acts on the primary and secondary adenopathies and favourably influences the tertiary lesions In none of the cases treated was there any sign of relapse after some seven months of observation. The treatment had the minor drawbacks of producing a slight dark line on the gums comparable to the blue line in plumbism, and of inducing sometimes a stomatitis which easily yielded to local treatment.

The time has been too short and the cases too few to permit of a definite conclusion being drawn regarding the permanence of the cure, but the authors believe that in bismuth we have a spirillicide of remarkable potency, comparable to that of the best antisyphilitic medicaments known It seems to act better and more profoundly than mercury, though in some cases less rapidly than the most active arsenical derivatives The stability *in vitro* of the bismuth salts used is certainly a notable advantage from the point of view of therapeutic practice Sazerac and Levaditi are now engaged in the preparation and testing of more complicated bismuth derivatives

Meanwhile Fournier and Guenot have made a more extensive study of the effects of the bismuth treatment in human syphilis, clinically and serologically, endeavouring to define the dose and to appraise the possible disadvantages as well as the benefits of the drug Having treated about 200 cases, they state that the results the treatment has given in their hands absolutely confirm those of Sazerac and Levaditi, and show that bismuth deserves to be considered as one of the most powerful antisyphilitic agents at our disposal The effect of the tartrobismuthate on the primary lesion is to cause a disappearance of the spirochætes from the surface of the chancre, sometimes on the day after the first injection, more usually on the second day, and rarely after the third day Small erosive chancres cicatrize completely in a few days, medium-sized chancres take a week to a fortnight, and very large or ulcerating chancres heal entirely in about three weeks, though they lose their specific characters at an early period. The chancrous induration and the accompanying adenopathy are more rapidly influenced by the bismuth than by any other treatment whatever, and generally have completely disappeared in a few weeks Spirochætes have been sought in vain in the glands after the third injection—that is, about a week from the commencement of treatment. The clinicians report that in all the primary cases they treated the results were uniformly good, from both the clinical and serological points of view

In cases where treatment was not begun until the secondary manifestations were evident no less striking results were obtained The spirochætes disappeared from mucous plaques after the first or the second injection, and these lesions might heal completely in four or five days The erosive genital plaques healed almost as rapidly If caught at its commencement the roseola was arrested, perhaps after an exacerbation of twenty-four hours The Herxheimer reaction might be apparent also at the site of the papular syphilides The simple roseola was generally effaced entirely in five to ten days, though the papules endured a little longer Indeed, the authors have seen the total disappearance in fifteen days of a generalized miliary eruption and of palmar syphilides—manifestations which are notoriously rebellious to specific treatment The general secondary phenomena, such as headache, lumbago, and pains in the bones, always disappeared with the first injections In particular they draw attention to eight cases which, in spite of prolonged arsenical and mercurial treatment, were subject to recurrent lesions, and which were permanently cured by bismuth, and to another case of acute syphilitic meningitis where all the symptoms—headache, rigidity of the neck, and Kernig's sign—disappeared after three or four injections, whilst the lymphocyte count of the cerebrospinal fluid fell from 400 to 7 on the fifteenth day

With regard to tertiary lesions, Fournier and Guénot report that most usually the bismuth treatment acted in a remarkably rapid fashion in those forms commonly met with, such as gumma, osteo-periostitis, and ulcerated cutaneous sores, lingual leucoplakia was improved though not cured and the time has been too short to enable a judgment to be formed on the results of treatment of cases of visceral and nervous syphilis

In brief, as far as the authors have gone, they have not yet encountered any case which presented new lesions after the commencement of treatment, no chancre treated before the appearance of rosela, even if it had been in existence for over a month, was followed by *secondary lesions*

The Wassermann's reaction has been the guide for the duration of the treatment, in primary and secondary cases one course of treatment is not usually sufficient to bring about a negative serological reaction The tartrobismuthate (10 per cent in olive oil) is administered intramuscularly twice or three times a week, beginning with a quantity corresponding to a dose of 20 cg, which is repeated once or twice and then followed by a dose of 30 cg, so that a first course of treatment taking a month means the injection of a total of 2 to 3 grams of the salt. After this has been completed a single weekly injection of 20 to 30 cg may be given, or the treatment may be suspended for a month and then started over again All the time the condition of the Wassermann's reaction is noted, and when this becomes negative a few more injections may be given as a precautionary measure

No serious phenomena have resulted from the use of bismuth, but there are two inconveniences on which Fournier and Guénot dwell The first of these is the local reaction Though well borne by most patients, yet in some instances the injections provoked sharp pains at the site, which might last for two or three days, sometimes accompanied by local redness and swelling and in exceptional cases by local oily collections, which were spontaneously and rapidly absorbed These occurrences were practically confined to patients who had walked shortly after being given an injection The other drawback noted was the almost constant impregnation of the buccal mucous membrane with bismuth This was manifest by the appearance of a dark line on the gums, sometimes by black patches on the inside of the cheeks and a slight bluish tint of the tongue, in certain cases a mild stomatitis appeared, easily prevented and easily curable. Chemical examinations showed the presence of bismuth in the blood, cerebro-spinal fluid, bile, sweat, saliva, fæces, and urine. It is found in the urine in

work, and in rapidly revolving gears it is of vital importance that guess work be entirely eliminated and that one knows that lubrication is perfect.

Again, easy access should be had to the explosion chambers of the cylinders. In cold weather it is a difficult matter to get sufficient gasoline vapor into the explosion chambers to start the engine. If a little gasoline can be introduced into the chambers, a turn or two of the crank will develop a mixture sufficiently rich in gasoline vapor to keep the engine in operation long enough to pump in a supply from the carbureter, then all is well.

The Test of the Car

We bought and have used our machine for business purposes. When in order and running well and the roads have been in good condition, it has been very satisfactory, but when out of order or the roads have been bad, quite the contrary.

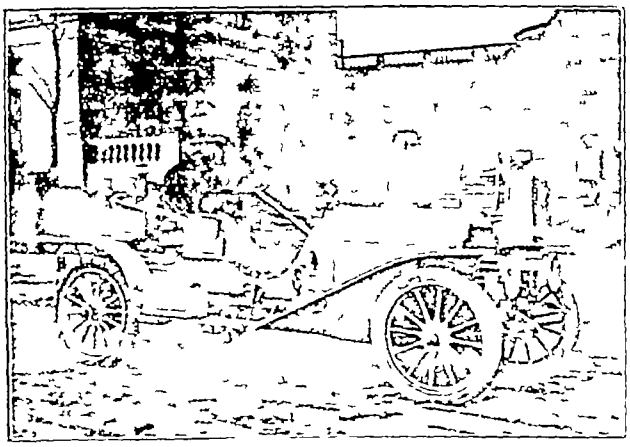


Fig. 12.—The car (205) of Dr. R. R. Campbell, Chicago.

With our experience as a guide, we are willing to return to the more prosaic, plodding means of locomotion and retire the auto to the limbo of the past.

THE AUTO A TREASURE AND A BLESSING

CHARLES FARQUHAR, M.D.
OLNEY, MD.

HAVING used an automobile for six months in country practice, I can say that if a doctor can go his rounds with one good horse, it would be folly to substitute an auto. No matter how carefully a machine is driven there are always liable to be breaks, and worn parts that have to be replaced that will cause interruption and loss of time to a busy practitioner, especially in a country neighborhood and at a long distance from a machinist. On the other hand if a practice is too large for one horse to accomplish the necessary work, the addition of an automobile will be a great satisfaction, and a source of pleasure and comfort, to glide along easily, and return quickly, saving fully half the time required by a good horse. In case of breakage, the machine can be repaired and the physician can make out with his horse until he gets back his machine. If a doctor is in a position to keep two automobiles, he might get along without the horse. Living in the city where a machine can be quickly repaired, would alter somewhat the above view.

Many Cylinders, Multiple Trouble

My auto is a one-cylinder, water cooled 10 horse power machine (121) costing with top lamps and horn $885. As my practice is in a stony country with flint stone pikes solid tires are used, having a depth sufficient to make resilience enough to ride as easily as a hard pneumatic tire. I prefer the one-cylinder machine as the flywheel is larger and equalizes any irregular motion, less complicated machinery being less to get out of order and less to inspect. The saying "one cylinder one trouble, two cylinders two troubles, and four cylinders four troubles," is doubtless somewhat true.

As an antifreezing solution I have used with entire satisfaction one quart wood alcohol and three quarts water. This solution has less tendency to corrode the metal than some others, and it is cheaper.

Success Demands a Thorough Knowledge of the Car

To be successful in the use of a machine from an economical point of view the physician must understand every part, and it is best for him, especially if he lives in the country, to care for it himself, seeing that it is well oiled and cleaned.

The automobile in the hands of the right kind of a man, and under proper conditions, is a treasure and blessing to a physician.

ONE CYLINDER BEST FOR THE PHYSICIAN

J. A. LYNCH, M.D.
CRESSON, PA.

ALTHOUGH I am an automobile enthusiast, I do not let my enthusiasm get away with my judgment. I was induced to buy an auto by the enthusiastic accounts of them given in the 1906 Automobile Number of THE JOURNAL. The automobile has not met my expectations from a practical standpoint in spite of the fact that mine was going when nine out of ten of all the others in this section were down and out.

I have been using a standard make runabout (150) for two years, over roads as good and bad as will ever be encountered in any settled country, and it is from this experience I write.

Auto Cheaper Than Horses

With a standard make gasoline machine, having a fair knowledge of its working parts, one can drive over good roads as cheaply, as reliably and more quickly than with a good team of horses, but the reverse of this will be the experience of anyone having bad or even medium roads to drive over.

The best machine for a doctor who intends to drive it

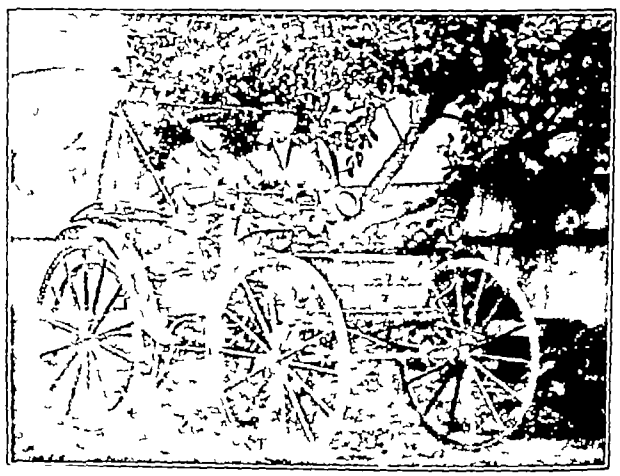


Fig. 13.—A car (174) from the Pacific Coast. Dr. J. C. Bynum, Ventura, Cal., starting on a country trip with Mrs. Bynum for company.

himself is a one cylinder gasoline runabout of not less than 10 horse power and not weighing more than about 100 pounds to each horse power. He will not have enough power to make 40 or 50 miles an hour, but this will probably save the machine and his neck at the same time. Two-cylinder machines give more power and less vibration but this advantage is entirely outweighed by the amount of trouble two cylinders give to beginners.

Best to Have a Horse Handy

No physician who drives 10 to 20 miles daily over country roads should expect to use the automobile to the exclusion of the horse. Deep mud roads, new roads, recently repaired

volume dealing with that subject Of the first five volumes Vol 1 is on General Medicine by Drs Billings and Raulston It includes useful reviews on the role of vitamines, intravenous protein therapy, diagnostic pitfalls in pulmonary tuberculosis, vaccine and serum therapy in lobar pneumonia, clinical types of malignant malaria, the treatment of E histolytica carriers rheumatism and arthritis bronchiectasis, types of endocarditis and of disturbances of cardiac rhythm, syphilis and cardiac diseases, thrombo-angitis obliterans which Meyer seems to regard as due in the majority of cases to tobacco poisoning, and an excellent series of articles on blood pressures The sections on endocrinology, acidosis, nephritis and diabetes are clearly written and detailed The physiology and blood supply of the stomach and duodenum are dealt with in relation to gastric ulcer, whilst the radiography of the stomach and intestines is well illustrated In dealing with ankylostomiasis Kantor points out the importance of the latent period after treatment, during which the egg-laying function of the hookworm is depressed, and patients apparently cured may be found to be again passing ova six weeks after apparently successful treatment. For mass treatment of ankylostomiasis two treatments, each of 1 5 c c of Oil of Chenopodium are recommended by Darling as the most suitable all-round measure Pellagra is fully dealt with, and there are clear reviews of a paper by Conard on the meat diet treatment of sprue and by Dr W H Wilcox on Heat Hyperpyrexia as seen in Mesopotamia

Volume 2 by Dr A J Ochsner deals with General Surgery Following a general review of present day methods of anæsthesia there are excellent resumes on the newer antiseptics and the treatment of infected wounds Other articles of special interest are the causes of irritation in amputation stumps, a study of end results of different methods of treatment of fractures, intracranial pressure and the technique of decompression, the surgery of the thyroid, the principles of thoracic surgery, empyema as seen at the Mayo clinic, foreign bodies in the heart, the principles of abdominal surgery and its complications, the indications for drainage in peritonitis, the sequelæ of gastro-enterostomy, gastric and duodenal ulcer as seen in Travancore, and also as studied at the Mayo clinic, the surgical complications of dysentery, and the causes and treatment of intussusception An interesting case recorded is one of appendicitis without protective stiffening of the abdomen The indications for and against operation in appendicitis, new incisions for appendicectomy, and the end results of removal of the appendix are dealt with in turn A review of jaundice and its surgical significance is followed by a series of articles on the anatomy, surgery, and abnc
gall-bladder The improvement
nephrectomy is shown in th
from Mt Sinai Hospital

a mortality of 21 2 per cent in 112 cases in 16 years prior to 1912 followed by one of 3 86 per cent in 207 cases from 1913—20 The treatment of fractured clavicle by padded bandages in place of plaster will interest civil surgeons in the tropics, and means more comfort to the patient

Vols 3, which deals with diseases of the eye, nose and throat 4, with pediatrics and orthopædic surgery, and 5 with gynæcology and obstetrics are all of the same high standard Vols 6, 7 and 8 are still in course of preparation The whole series of books constitute a most useful and reliable guide to the general practitioner If we may venture a suggestion to the editor and publishers, a further annual volume on Tropical Medicine would probably be much appreciated

CHEMICAL DISINFECTION AND STERILISATION—By S RIDEAL AND ERIC RIDEAL (Lond), 1921 Edwin Arnold & Co Price 21|- net

THIS book consists of seven chapters which deal with methods of disinfection, sterilisation and preservation of food and wood, five chapters concerned with the chemicals employed in disinfection, and one, the last, detailing methods of analysis and testing of disinfecting and sterilising agents The introductory chapter deals briefly with the relation between bacteria and public health and with a historical discussion of methods of disinfection

With regard to the disinfection of air it is emphasised that this cannot be effected without its being rendered unfit for respiration

Various methods for the sterilisation of water—by heat, light and chemical compounds—are detailed with the results of tests of their efficiency

In the chapter on Public Disinfection and the Disinfection of rooms much information of practical value is given

In connection with disinfecting arrangements in hospitals steam disinfectors are recommended and points emphasised in their working are that —

(1) The same attendants should always work the machine

(2) A recording thermometer or thermograph should be fitted to enable negligence on the part of the operator being detected

The chapter on Personal and Internal Disinfection is also of much practical value, discussing the surgical sterilisation of the skin, and the disinfection of wounds

On page 140 (in the chapter on non-bacterial parasites) the statement that fleas spread the parasite of "Kali-agar" (which is presumably "Kala-azar") may be accepted with reserve

In [illegible] portion of the book the various ch[illegible]ed[illegible]on are dealt with, [illegible]etailed, and their

gine, protected from the inclemency of the weather, and work ing with an even load, is a different problem from an engine, subject to the most severe strains, one moment exerting the utmost power to climb a hill and the next moment racing down, and at the same time tossed about, by passing over rough surfaces

The Shrewd Demonstrator and the Would-Be Purchaser

It is one thing to sit beside the demonstrator, trained to *magnify* the commendable points of a car, and carefully to pass over the real difficulties, which one will have to encoun ter sooner or later, it is quite another thing to take possession of the car for business purposes In the first place, I believe, it requires a person of a mechanical turn of mind to operate a car successfully for any length of time

If a proper understanding of a car was a prerequisite to purchase there would be fewer cases of annoyance and exas peration on account of being towed home. I have learned these points from experiences, for the unexpected is sure to happen

I have owned and operated two kinds of automobiles My first car was a steamer (123)

Nothing surpasses a steam car, in the beauty and delicacy of operation, but pleasure is more or less clouded with a mul titude of cares

My attention was next turned to a gasoline car I had demonstrated to my satisfaction a one, a two and a four cylin der machine Whether I made the wisest choice or not, I do

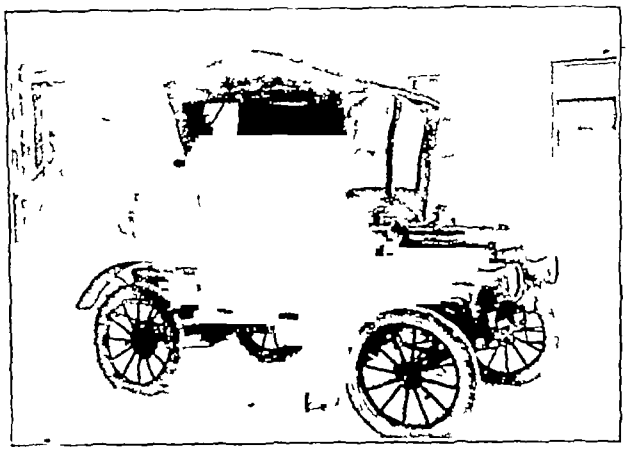


Fig 24—Drove his horse but twice after he purchased this (222) reports Dr A L Peckham Poughkeepsie N Y

not know, but I chose a four cylinder, air cooled runabout car (124) I have found this machine to work very satisfactorily, but it needs constant attention to the details of adjustment

I value my experiences very highly, and, after more than twenty five years' experience with horseflesh, I find that for rapidity of transportation, practical and pleasant locomotion no horse that I ever owned can compare with my four cylin der, air cooled gasoline runabout

NOTHING LIKE AN AUTO—IF YOU RUN IT YOURSELF

DELNO E KERCHER M D
PHILADELPHIA.

OVER five years ago I abandoned the horse for the auto mobile as a means of getting about in my professional work I have had four new machines The first two were popular single cylinder runabouts (186) and were fairly reliable on our smooth city streets although they were under powered uncomfortable from vibration, and not hand ome The two functioned for two years and four months My next car was a two cylinder, 10 horse power runabout (187)—a very decided improvement on the other two This car was in daily use for sixteen months and cost for repairs apart from tires $11 It cost new $750 and I sold it for $400

Does His Own Repairing

My fourth and present car is a four cylinder runabout (136) of 1,100 pounds and rated at 15 horse power This car has been in constant service for fourteen months, and the actual outlay for repairs has been $3 I rent a small stable in which I have tools and machinery sufficient to do all the repairs needed so far This explains the small cost of this usually large item I regard this work as recreation Automobile anatomy and physiology is interesting *and useful* My 28x3 clincher pneumatic tires have been run 8,000 miles without retreading The tires are the most vulnerable part of the automobile I have a small vulcanizer with which I can repair nearly all the injuries to the case or tube without removing *from the wheel* My *total* tire expense for the fourteen months is $38

A Very Small Expense Account

My monthly expense averages $12, made up of the following items Rent, $5, gasoline, $4 50, lubricating oil, $1, batteries, $1 50 I run about twenty miles each day From each gallon of gasoline I get from twenty five to thirty one miles *One set of twelve dry cells runs the car 1,000 to 1,800 miles*

Auto Is Unsafe If Not Kept in Order

My practice is to examine the working parts of my car every few days, to run the car myself, to be thoroughly famil iar with the physical diagnosis of its every ailment. Other wise, I believe the automobile is often disappointing, unreli able and even unsafe

THE AUTO IS ALL RIGHT—IF YOU HAVE A MAN TO RUN IT

M C OVERTON, M.D
LUBBOCK, TEXAS

I HAVE two two cylinder runabouts (187, 188), and my ex perience has brought me to the conclusion that no country physician has any use for an auto unless his practice jus tifies him in employing a driver My two machines keep a man busy

No country roads could excel the roads on the plains in west ern Texas I average 18 or 20 miles an hour I have used ma chines about two years I formerly kept four to six horses, but found them inadequate for my practice I now hire a team in muddy weather, as it does not pay to use a car

An auto is more expensive than horses, but a doctor's life is made easier, and he can do twice as much work in the same length of time

Large, Heavy Machine Preferred.

I would advise *strongly against a light weight machine for* country use, also against a low power machine They will not stand the hard work Get a machine weighing not less than 1,200 pounds and not less than 18 or 20 horse power A two cylinder machine is preferable A one-cylinder machine has not the necessary power, and if it gets out of order, you have a dead machine, while you can come in on one cylinder if one of the two cylinders quits A four-cylinder machine has more to get out of order and for a physician's use has no advantage

If a car is properly taken care of, one need have but little trouble, but if a man tries to practice *medicine and run his* own automobile in a general country practice, I fear he will soon decide an auto is of no service

THE AUTO A GOOD INVESTMENT FOR A COUNTRY DOCTOR

H G BLANCHARD, M D
WASECA, MINN

DURING the last four years I have done most of my driv ing by automobile, only occasionally hiring a livery team when mud was very deep or when snow was deep or badly drifted During the six years preceding this time I tried hiring all my driving, and keeping one and two teams

The inspecting staff consisted of 20 District Inspectors of Vaccination and 68 Sub-Inspectors of Vaccination (including three deputed for duty at the Vaccine Depôt), in addition to the two Sub-Assistant Surgeons combining vaccination inspection with other duties in Angul The total number of vaccinators employed in the Province during the year was 1,088 licensed and 227 paid, against 1,067 licensed and 221 paid in the previous year

In Municipalities and in the district of Puri, vaccination was done by paid vaccinators , but otherwise the work throughout the Province was carried out under the licensing system, except for the employment of paid vaccinators by District Boards, and employed temporarily by Civil Surgeons for short periods to deal with outbreaks of small-pox

2 *Operations performed*—The total number of operations performed during the year amounted to 1,060,485 as compared with 1,054 905 last year Many reports were received of the unwillingness of the people to have their children vaccinated, and of increasing difficulties in realising fees They are probably to some extent of an economic nature and due to the increased cost of living, but also to a considerable extent due to political propaganda.

During the year, 17,066 children under one year of age, out of an available number of 28,705 or 59 45 per cent were successfully vaccinated

3 *Work done in the Native States under the supervision of the Political Agent*—Vaccination work in the Orissa Feudatory States has steadily developed during recent years under the direction and encouragement of the Political Agent

Both vaccination and to a large extent re-vaccination are practically compulsory in the majority of these States

During the year under report 201 433 primary operations and 348,149 re-vaccinations were performed as compared with 315,878 and 364,225 respectively in the previous year As the total population of the Feudatory States is under four millions, these figures are rather extraordinary when compared with the provincial figures, which show a total of roughly one million forty-one thousand operations performed amongst a population of 34,489 846 The number of children born each year in the Feudatory States may be estimated roughly at two lakhs, and of these a considerable number, certainly over 60,000 died in infancy

4 *Protection of infants*—During the year under report the number of children under one year available for vaccination was 978,806 and the number of successful operations was 377,981 equal to 386 per thousand, against 327,955 or 391 per thousand successful operations out of 838,706 children available during the previous year It gives a ratio of 594 per thousand of the surviving infant population as compared with 743 in the previous year

Civil Surgeons and Deputy Sanitary Commissioners are unanimous in attributing the opposition to vaccination to be concerned more with the age of the child than with the operation itself, and, in view of the strong popular prejudice which exists against the vaccination of infants at an early age, I consider that it is desirable that the Vaccination Act should be amended so as to raise the age for compulsory vaccination to one year instead of six months

5 *Incidence and Mortality of Small-pox*—In each of the last five years the mortality was as follows — 9,742, 6,687, 6 205 18,514 and 19,374

The provincial ratios of the mortality from small-pox per thousand of population during the last five years have been .28, 19 17, 53 and 56 respectively

6 *Prevention of Small-pox*—The constant and considerable mortality noted in the preceding paragraph is in my opinion, a complete demonstration both of the insufficiency and of the inefficiency of the existing arrangements for vaccination

It is well known—in fact it is an admitted axiom—that thorough vaccination can and does stamp out small-pox altogether, and in the light of that knowledge, and in face of the above facts there is great necessity for a more definite vaccination policy

I do not consider that small-pox can be effectively dealt with and stamped out unless vaccination is made compulsory throughout the Province, and I would recommend that the Vaccination Act should be modified so as to extend the age within which vaccination is required to one year, and should be generally enforced that vaccination should be free and that the supervision and control of vaccination should be delegated to District Boards and Municipalities and their Health Officers

7 *Supply of Vaccine*—The Vaccine Depôt at Namkum supplied the Province with vaccine throughout the year A large supply of vaccine is held in reserve and the necessary stores and supplies for manufacture are in ample stock 1,869,908 doses of vaccine were manufactured during the year as compared with 3,504,589 doses last year The number of doses issued was 2,628 548 against 2,599,744 in 1919-20 The number of doses in stock at the end of the year was 1 493 759 The number of calves used during the year was 362 as compared with 602 in the previous year and the average yield of crude vaccine was over 55 grammes per calf as compared with 48 6 grammes in the previous year The number of calves required has been considerably reduced by improvement in the technique of operating and by the better feeding of calves, and the working costs are therefore low and compare most favourably with the costs of production in other provinces The working costs of the depôt for the year amounted to Rs 24 923 as compared with Rs 25,048 in the previous year The average cost of the vaccine per dose works out at 2 5 pies on the gross expenditure and to .5 pie on the net expenditure when the receipts are taken into account

8 *Vaccine Depôt and Cold Storage*.—The Vaccine Depôt was closed for manufacture twice during the working season in November and January on account of outbreaks of rinderpest There were 65 attacks and 12 deaths during the two epidemics The work of manufacture was seriously interfered with during the working season and considerable loss was incurred on account of the interruption of work, the deaths of calves, and the loss of vaccine

During the year under report cholera vaccine and influenza vaccine were stored in the depôt and issued throughout the Province as required

A class for the training of candidates for the vaccination inspecting cadre was held in February and March and seven candidates were trained and qualified

The cold storage plant, which is essential for the preservation of the vaccine, gave trouble throughout the year and was with difficulty kept going until the end of the working season The plant has now been dismantled and is under repair and the reserve stock of vaccine is in cold storage in Calcutta.

9 *Experimental work*—Further experimental work was carried out at the depôt during the year with some interesting results With a view to producing a cleaner and purer vaccine, disinfectants were experimented with and it was found that the addition of 2 per cent boric acid improved the quality of the vaccine by diminishing the number of other organisms present without decreasing its potency After being kept in cold storage for six months the boric vaccine gave cleaner and better vaccination marks than the ordinary vaccine

Experiments were also made with a view to producing a less fluid vaccine as there is a considerable wastage at present owing to the careless handling of the tubes by the vaccinators It was found that a mixture of 5 per cent starch and 2 per cent. boric acid with 93 per cent water after boiling can be used to

BRIEFLY PUT

DR W K PRICHARD, CLOVERDALE, IND With a machine, time—one of the most valuable things a physician has—is conserved (*Auto 249*)

DR. CHAS W BROWN, WASHINGTON, D C I have used a two cylinder runabout (229) in my general practice continuously for nine years I have made all the repairs necessary I have had less delay and less expense than when using horses, which in icy weather gave much trouble and loss of time to keep them properly shod, so they could travel on our asphalt pavements I am able to do double the amount of work in same time

DR. J B POTSDAMER, PHILADELPHIA I would never return to a horse The question resolves itself into a few definite points 1 As simple a machine, of reliable make, as possible 2 Careful running, and familiarity with all its points A run about, one cylinder machine of 10 horse power is all that is necessary My first runabout (247), single cylinder, for four years cost an average of $28 per month For the past twenty months another car (248) averaged a cost of $20 per month and I have not lost one day

DR. SAMUEL C RUMFORD, WILMINGTON, DEL. Starting with a single cylinder car (251)—no better ever made for hard rough work and reliability—and using it for three years, I changed about nine months ago to a lighter and faster four cylinder runabout (252), which has been equally satisfactory, and goes through six inches of snow without difficulty Four cylinders about double the consumption of gasoline and oil used in a single cylinder The expense from July 1, 1907, to Jan 1, 1908, was

Gasoline 7 barrels	$47 32
Cylinder oil 8 gallons	4 00
Charging batteries	3 00
Tire patches	1.25
Lights	2.45
Mechanic's time	9 60
State license	5 00
Glycerin 2 gallons	4 00
Total	$76 62
Average cost per day	40

With every cylinder the care is multiplied, and so for a beginner I advise a good reliable single cylinder car that will surely get him to the patient in half the time his horse would take, and then, after a year or two of experience, get the more complicated car and cut his horse's time down to one third I see no advantage in air cooling A man does not need to be a mechanic to operate an auto successfully All that is wanted is common sense and the ability to resist the temptation to tinker with the machine unless one knows exactly what he wants to do A man who has used a horse thinks now that he has a machine to drive speed is necessary and flies across rough crossings at 20 miles an hour, when at that same crossing he would have pulled his horse down to a walk

DR. J H GUINN, ARKANSAS CITY, KAN Having had seven years' experience (118) with a trouble wagon, I realize how expensive experience is A steamer (119) is a nice smooth noiseless running car but not suited for a doctor For pleasure of steady running it is a nice machine, or if you are able to have a chauffeur, but in that case you are able to retire from the practice of medicine. For city work the electric (120) is the ideal machine There is no smoke no smell, no vibration no heat, no noise and no complicated machinery The electric is always ready and reliable, lights in an instant and is unaffected by heat or cold A child can operate it, and a doctor will feel a hundred times more safety for his wife or children when out in an electric than when out with a horse I keep the machine behind my office and do my own charging from a small generator driven by a 2 horse power electric motor I have nothing to do but plug in throw the switches and go to my office and return when the battery is charged and turn off If I come in late at night and the batteries are well down, I cut the amperes back with the rheostat, calculating the number of hours that I will be away and when I go back in the morning I have thirty six or forty miles of energy that I can rely on and have no fear that I will have to be hauled home (A doctor would rather lose a patient than have his machine hauled through the city behind a dray!) I oil my machine and look the batteries over once or twice a month, requiring thirty to forty minutes My running expenses have slightly exceeded one cent per mile but this is due to cheap natural gas, 25 cents per 1,000 cubic feet and the electric plant people have water power and meet competition

BOILED DOWN

DR ALBERT R TRAPP, SPRINGFIELD, ILL *I am able to go* almost anywhere on the roads except when the mud is sticky and deep I would not advise a physician to purchase a machine if he did not have a fancy for machinery, nor if he is afraid of having hands soiled with engine oil I take care of my own machine (253), which is not hard work, but rather recreation One ought to spend several days in the factory to become familiar with the anatomy of his motor

DR. JAMES FREDERIC CLARKE, FAIRFIELD, IOWA As my automobile (166) was too light for country work, I sold it I could only use it in the summer because of bad winter roads and freezing I would buy another but for the fact that they frighten the farmers' horses If one cares for the rights of others and for the good will of the farmers, the use of an automobile at this time and place is perhaps not wise I found the automobile more expensive than a team The machine wears out rapidly, tires are expensive, and after using my machine two years it sold for 16 per cent of the first cost When able to afford the luxury I will buy an automobile for pleasure In my opinion, with southeastern Iowa mud and cold weather, the automobile, as now made, is not a practical machine

DR. A L PECKHAM, POUGHKEEPSIE, N Y To have satisfactory service one must have a reliable car, personal interest and ability to care for it properly, and fairly passable roads My car (222) has now been in commission every day for a full calendar year The maintenance for twenty one months, 8,200 miles, cost

Gasoline (at 20 and 22 cents)	$112 20	
Lubricants	21 95	
Batteries	11 00	
		$145 15
Tires New	$133 50	
Repairs	16 00	
Patches and cement	4 60	
Replaced cross chains	8 00	
		162 10
Repairs Broken springs	$ 25 75	
Other repairs and varnishing	47 00	
		72 75
Miscellaneous Alcohol, carbid polish etc		5 50
		$385 50

This averages *$18 36 per month, or about $220 per year, 4 7 cents per mile* That is less than the present cost of keeping a single horse As the service value of a horse is the miles traveled, the comparative cost of maintenance should be figured on the mileage covered in a given period of time On this basis, estimating the horse mileage, I believe the automobile has cost me about half as much per mile as the horse Aside from its ability to wade through very deep snowdrifts, I can not see a single point on which I am willing to concede superiority of the horse over the automobile in the usual service that I require

DR Z FULLER, SAC CITY, IOWA Even the worst snow and mud can be "negotiated" with my car (155), but it is more sensible and satisfactory to go with a team when such road conditions prevail Twelve to fifteen miles is my usual speed which is about double that of an ordinary team, if continued more than an hour or two The higher the speed the greater the liability to breakage, with its dangers and expense, and the shorter the life of the machine Driven at this moderate speed, I see no reason why this machine should not outlast a team I have found the machine less expensive than keeping a team My repair expense has been very light, mostly, perhaps because of the solid tires I suspect that the size of repair bills depends a good deal on the man who runs the machine, whether he understands his machine, whether he is at least reasonably thoughtful and careful, and most of all whether he has "speed mania" My machine has more than met my expectations I am greatly pleased with it Horses have always been, for me too slow and otherwise unsatisfactory On long hard drives especially, when one must hurry it has always hurt to force horses on, as one must, mile after mile when they are tired and worn A machine has no nerves a very large item to me I can do far more work, yet have more time for rest, and the pleasure, diversion and healthfulness of driving the machine has been of no small consequence Country doctors get little enough of pleasure and diversion, and more than enough of unhealthfulness Yet for these advantages I have had to pay the price This price has been much time hard work and plenty of annoyance while learning the machine A country doctor must drive and care for his own machine for the most part He must learn to be an engineer, and he must learn this largely on the road without an instructor must "work out his own salvation"

Wasting Diseases

Effect of Virol as a tissue builder.



(1)



(2)

Rosevale Hospital,
Dumfries, Scotland

Gentlemen,

The enclosed photograph (1) is that of a little girl, age 7 years and 5 months, who was certified by her Doctor to be suffering from Wasting Disease, and sent to the above Hospital for admission on the 25th February, 1918

On admission her weight was 1 stone 11½ lbs She had three discharging abscesses on the head, septic sores on her ears, back, chest, legs, feet and hands, and was in a state of extreme emaciation and exhaustion Apart from the dressing of her sores, and the usual Hospital diet, this little patient had no special treatment except Virol, which she had thrice daily, from admission, and by the end of six weeks her sores were completely healed, and she had gained 1 stone in weight On the 21st April, eight weeks after admission, she weighed 2 stone 11½ lbs The enclosed photograph (2) was taken on this date

I think you will agree with me that it is a striking recommendation for your wonderful preparation—Virol, and I am pleased to have this opportunity of stating that during my nursing experience of over 20 years in Hospital, I have considered it to be my greatest "standby" in the treatment of all delicate children under my care

Yours truly,

(Signed) J A McCALLUM (*Matron*)

VIROL

Virol Ltd., 148-166, Old Street. London, E.C.1.

S.H B

IN A NUTSHELL

DR J E P HOLLAND, BLOOMINGTON, IND I certainly could not do without my car (214)

DR. JOHN SPECHT, SUPERIOR, WIS Last year a motor cycle (206) was my hobby But I found that for a physician who wishes to be well dressed and have clean clothing a motor cycle is not practical I intend now to get a single cylinder gasoline motor car (210), with a good top and storm front and apron, and will be able to ride in all kinds of weather

DR R R CAMPBELL, CHICAGO Now that the automobile has become a necessity with the busy practitioner, the two all important questions are what to buy and where to buy I would answer the first question by the simple statement, a first class four cylinder machine Not only have my cars been satisfactory in every detail, but my dealings with the company, of which I have bought three cars (205), have been eminently satisfactory

DR E T FIELDS, ENSLEY, ALA I have owned two cars (235, 224), but I have never given up my horses and buggy and would advise anyone—especially those who have more or less muddy country roads to run on—to not think of giving up horse and buggy entirely It is mighty nice to have both, but if you are going to take one or the other for ever ready, every day and any kind of a day or any kind of roads, take your horse and buggy I will say this for my present car (224), that I don't think there is a better machine made for anything like the money, and it will go anywhere and has given me perfect satisfaction

DR. H W CHAPMAN, WHITE HALL, ILL. On good roads the automobile is far superior to the horse On bad roads the horse is still in the lead and most satisfactory My first machine (233), described in your former Automobile Number, was very unsatisfactory from faulty design and poor construction It was disposed of at a great sacrifice and I immediately had one built from my own designs and under my own supervision It is a success Drive at a speed that shows you have some regard for others if not for yourself, and a properly designed and constructed car will do the work of three horses at the cost of one

DR MARION M HULL, ATLANTA GA Since July 10, 1907, I have driven my car (201) over 3,900 miles on professional calls, with the exception of possibly 150 miles on purely pleasure drives, have not been without the use of it a single day, and the total cost of maintenance, including repairs, has been under $200 It needs adjusting occasionally, but so does its driver I am entirely satisfied that a good automobile is the best means of transportation for a physician I keep mine at home, and find I do not dislike to make long calls at night as badly as I did I enjoy it most by the fact that I can go when I have to without having to wait for a negro to get his meals—a loss of about two hours a day previously

DR. O C BREITENBACH, ESCANABA, MICH Motoring under difficulties in this northern country, a one cylinder machine (237) served me very well at first After one year's service the multiple cylinder machine stimulated vain desires, and I began to use a two cylinder touring car (239) After several months' use I disposed of this machine because of its not being adapted to a physician's work I have come to the conclusion that a certain four cylinder runabout (202), because of its light weight and economy in maintenance, is the ideal machine for the practitioner I am opposed to a high priced runabout or roadster, because it does not assure any more success than a medium priced car and the depreciation is so much greater

DR. FREDERICK MENGE CHICAGO A few days ago, leaving my car (226) in the favorite doctor's haunt, the Washington Street side of the Public Library, a regulation blizzard in the course of the day accumulated a snowdrift in front of the machine up to the radiator and finally through this under the bonnet, until the whole was turned from a greasy black engine to a mass of snow through which one could not tell apart the cylinders nor find the carbureter, commutator or even the fan This being a new contingency, which it had never been my fortune to experience the best plan and the one involving the least amount of work seemed to be to remove the snow carefully from one of the spark plugs remove the plug and prime the cylinder Cranking in the usual way started this cylinder, and that in turn the others The heat generated by the running engine soon had the snow melted away and we went on our way rejoicing

MULTUM IN PARVO

DR IRA M COMSTOCK, NEW YORK MILLS, N Y I believe that the automobile is a necessity to the general practitioner (236)

DR. M D WESTLEY, COOPERSTOWN, N D For three years I have made my calls in a runabout (208) and find it practical and economical I was delayed on the road but twice last season, by a nail puncture and by water freezing in the carbureter Last season was unusually long for North Dakota, extending from April, 1907, until Feb 5, 1908 During cold weather I use 30 to 40 per cent wood naphtha in water for cooling An enclosed top is an absolute necessity for comfort in severe weather

DR E F COOKE, HOUSTON, TEXAS My little old auto (151) is running to day as sweetly as ever, although it is about five years old, but it has not sufficient horse power to carry a top well, and so in bad weather I have to use a horse and buggy The great expense of operating a machine nowadays is in the tire As far as my observation and experience goes, the engines are reliable enough Like all machinery, the engine will get out of order, especially if not well looked after, but the troubles are mostly easily remedied

DR W C CLARKE, CAIRO, ILL Last October I wound up my automobile experience at a decided loss—the friendship of the one to whom I sold the machine (162) Since that time I have increased in weight and general appearance The transition from mechanic, electrician and general roustabout back to M.D was very pleasing, indeed I have more money now, do not beat my wife or grocery bills, ride in a comfortable buggy drawn by an old plug always good for a return trip, and am entirely satisfied over my complete and permanent recovery I send my condolence to any brother physicians who are not content to be in my class

DR MAX HENNING, MEMPHIS, TENN My car (228) has cost me $2,000 counting extras, with monthly expenses running from $25 to $50, besides keeping a horse and buggy for bad weather and when the machine is laid up for repairs Since the middle of August I have gone over 3,500 miles, using 380 gallons of gasoline, costing $69 80 As the streets of Memphis are not all paved, a doctor has a lot of riding in his machine to keep on the good streets, and then has to walk to make some calls While the streets are dry and the machine is running, it is great, but I would not advise any physician in Memphis to get an automobile unless he expects also to keep a horse and buggy

DR S B DICKINSON, WATERTOWN, S D My 6 horsepower runabout (240) has now been doing practically all my work for nearly five years, both summer and winter, and will run through soft snow or mud very satisfactorily, having just as much power as four years ago I have done most of the repairing and adjusting, which has been very little, during the past year I do not expect to revert to the use of the horse-drawn vehicle except when the roads are very bad With an additional 6 horse power in my machine it would be very satisfactory for at least three or four years more Were I to buy a machine to day I would want one with, briefly, the following points 1, wheels 36 to 40 inches in diameter, 2, solid tires, 3, wheel base not less than 70 inches, 4, chain drive to both rear wheels, 5, water cooled, 6, friction drive, 7, engine in center or toward rear, and 8, at least 12 horse power

DR C B MILLER, HELENA, MONT For the past two and a half years I have relied entirely on my high-wheeled, self propelled vehicle (219) for making all my calls, and I have been hauled home but once, when, it being dark, I ran off the side of a bridge and broke the control lever My machine is the pioneer in this city and has but seven horse power, yet it has not failed to carry me to and from my destination, up hill and down through snow and mud, in less time and with less care than a horse could have done and at one sixth the cost It is practically as good now as when purchased, due, in part, to replacement of wheels and axles, on account of the railroad backing a freight train into my machine On account of the grades on our streets ranging from 1 to 15 per cent, more power is desirable, and wishing to avail myself of the improvements since made, I have just bought a new twelve horse power car of the same make, and anticipate increased pleasure and comfort in its use Although I miss the horseback rides, of which I am very fond, no more horse-drawn vehicles for me

Wasting Diseases

Effect of Virol as a tissue builder.



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Gentlemen,

The enclosed photograph (1) is that of a little girl, age 7 years and 5 months, who was certified by her Doctor to be suffering from Wasting Disease, and sent to the above Hospital for admission on the 25th February, 1918

On admission her weight was 1 stone 11½ lbs She had three discharging abscesses on the head, septic sores on her ears, back, chest, legs, feet and hands, and was in a state of extreme emaciation and exhaustion Apart from the dressing of her sores, and the usual Hospital diet, this little patient had no special treatment except Virol, which she had thrice daily, from admission, and by the end of six weeks her sores were completely healed, and she had gained 1 stone in weight On the 21st April, eight weeks after admission, she weighed 2 stone 11½ lbs The enclosed photograph (2) was taken on this date

I think you will agree with me that it is a striking recommendation for your wonderful preparation—Virol, and I am pleased to have this opportunity of stating that during my nursing experience of over 20 years in Hospital, I have considered it to be my greatest "standby" in the treatment of all delicate children under my care

Yours truly,

(Signed) J A McCALLUM (*Matron*)

VIROL

Virol Ltd., 148-166, Old Street, London, E.C.1.

S.H B.

SOME SHOWINGS FROM MISSOURI

CHESTER E FULTON, M.D
SPRINGFIELD, MO

LAST March I purchased a four-cylinder gasoline runabout (101), water cooled, weight about 1,000 pounds, pneumatic tires, 28x3, cost of car and equipment, $773.93 I have used it constantly, except when laid up for repairs or waiting for new parts to replace those broken

Our streets and roads are very rough and somewhat hilly The soil is clay, and in many places is covered with flint rock, ranging in size from pebbles up to six and ten inches through Only a few streets have been sufficiently improved to be favorable to automobiling For this reason my expenses have been heavy

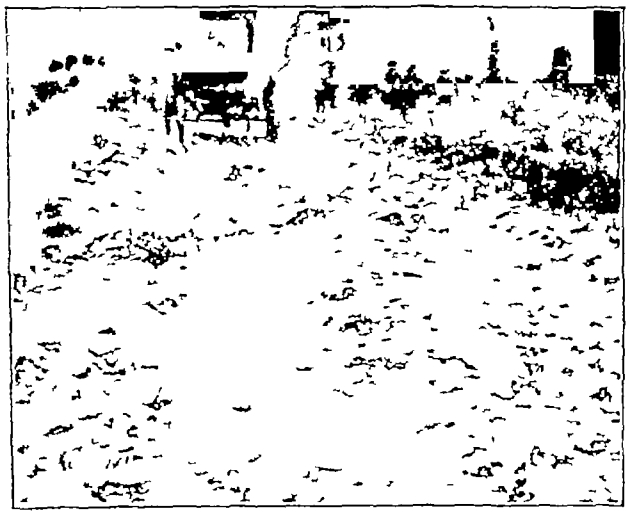


Fig 1.—A doctor can not choose his streets as can one who motors for pleasure Runabout (101) owned by Dr C E. Fulton Springfield Mo

Summary of Nine Months' Expenses.

My total expenses for nine months are as follows

254 gallons gasoline	$48.95
Oil and grease	19 15
Battery charging and dry cells	12.40
Repairs and replacements	147 95
Total for nine months	$228.45
Average expense per month	25.38
Average cost per mile	06

As I keep the auto at home and care for it myself, no garage expenses are included. Counting 15 miles of running for each gallon of gasoline—and I have made careful observations on this point—I have driven a total of 3,810 miles at an expense of 6 cents per mile, not including the depreciation in value of the machine

Can Not Think of Returning to the Horse

Since becoming accustomed to my auto I have been enabled to dispense with my horse most of the time, but I am going back to him during the winter months The expense of motoring is almost too great for me even in good weather, and I think it would be far greater in winter Am going to try it again next summer, however, as the time saved and the greater pleasure makes the thought of permanently going back to the horse unbearable

I am not sure that the advantages of a four-cylinder over a one or two-cylinder engine are as great as claimed by the advocates of the former, but I have certainly not found the objection of greater complication as valid as some proclaim it to be If I were going to buy another car I would prefer one with four cylinders—other things being equal.

I advise anyone using a four-cylinder high speed engine not to use dry cells It consumes them rapidly

FROM THE MUDDY ROADS OF IOWA

J R. CROSS, M.D
DES MOINES, IOWA.

EIGHTEEN months ago I bought a high wheel car (192), equipped with a two cylinder air cooled motor, 4x4, and two forward speeds. I found, however after a season's service, that the machine should have more than two speeds forward and reverse, in order to negotiate bad roads to good advantage I had less trouble than owners of low wheel cars with pneumatic tires, but I found that I needed a machine with more power or with a greater speed reduction in reserve for bad hills and deep mud, and also a car that would be practically fool proof and could be repaired in any blacksmith shop I investigated about every other make of high wheel car on the market, and even visited factories I finally was satisfied and bought a four cylinder, high wheel roadster (193)

A Fool-Proof Car

This car has front and rear wheels 40 inches in height, 1½ inch solid rubber tires, a road clearance of 20 inches, a four cylinder air-cooled motor, developing 20 horse power, a twin friction transmission giving any speed ratio from 0 up to the highest—forward and reverse It will climb steep hills on the highest gear at a good speed and is very powerful for muddy roads. Friction transmission seems to me in every way superior to a positive drive, and the twin friction transmission in my car enables me to handle the car over bad roads without any straining or shock I find this car a wonderful machine It gets under way quickly from a stand

I urge doctors who can afford it to buy a four cylinder machine, giving them plenty of power, as that is what they need, if they want to use their cars in all kinds of weather I expect to have an expense of $5 a month for wear of tires and other parts

Half as Expensive as Horses.

I think that this car is one-half as expensive to use as horses, while it will cover four times as much ground An automobile is absolutely indispensable to a busy doctor, but it is better not to have an automobile at all unless you buy the very best on the market, as that is the cheapest in the end

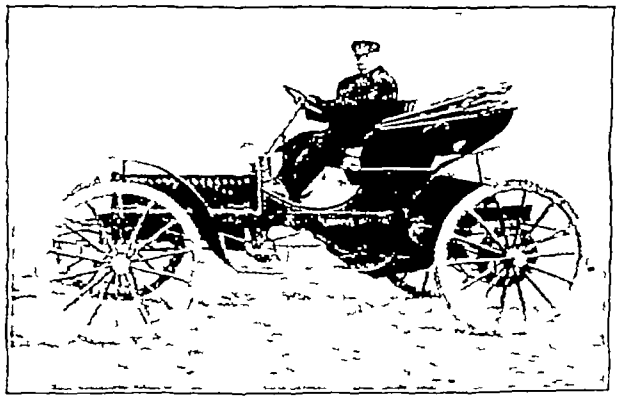


Fig 2.—Dr J R Cross, Des Moines Iowa just back from a country run through twelve inches of stiff mud (Auto 193)

WOULD NOT RETURN TO HORSES

R. D SMITH, M.D
YERINGTON, NEV

LAST September I bought a single cylinder, water-cooled, 10 horse power runabout (157), and have found it very satisfactory It runs about 20 miles on one gallon of gasoline and requires from four to six hours' work a week I find it a little more expensive than the horse, but use it much more I save lots of time and enjoy my trips, whereas I formerly dreaded them I would not return to the use of horses if it cost twice what it does to run the auto

almost every day in most of the houses and bungalows of Panchgani In one house, in its different parts, as many as 8 dead rats were found the same day It was noticed during this period that several cats, some squirrels and one crow were found dead on the road It has been most carefully ascertained that no kind of rat-poison was used for killing the rats All dead rats were carefully examined but none of them showed any characteristic post-mortem appearances of plague Their smears from heart, liver and spleen were examined for Bacillus pestis under the microscope but none of them showed any positive result The same smears were sent to the Bombay Bacteriological Laboratory for examination for plague bacilli and our findings were confirmed Further it may be noted that during the period above there was no case of human plague in spite of the fact that, except very few people, none had evacuated their houses and gone out to stay in the fields

3 If, from the facts as stated above, it is certain that these rats have not died of plague then I beg to enquire if there is any known epidemic of rats, other than plague from which rats die in such large numbers, not affecting the human population in the least, as they died in Panchgani during October, November and December, 1921

4 Captain T D W Gillespie, the Medical Officer of the Panchgani Dispensary, has kindly permitted me to publish this letter in the *Indian Medical Gazette*

Yours, etc,
ANNAJI V GOKHALE
Sub-Assistant Surgeon Panchgani Dispensary

PANCHGANI DISPENSARY,
21*st April*, 1922

Note.—Our correspondent seems to have made every effort to find a diagnosis and failed Has the possibility of sarcosporidiosis been considered? Sarcocystis muris often causes fatal epidemics among rats, would not affect human beings, whilst cats might become infected by eating infected rats.—EDITOR, *Indian Medical Gazette*

Service Notes.

APPOINTMENTS.

LIEUTENANT-COLONEL B H DEARE C.I.E., I.M.S, Principal and Professor of Medicine, Medical College, Calcutta, is appointed to be Surgeon General with the Government of Bengal, with effect from the date on which he assumes charge of his duties

LIEUTENANT-COLONEL P F CHAPMAN, C.I.E, M.B I.M.S is appointed to officiate as Inspector-General of Civil Hospitals, Central Provinces, with effect from the date on which he assumes charge of his duties until further orders

BREVET LIEUTENANT-COLONEL J L LUNHAM, I.M.S, to act as Civil Surgeon, Dhulia, during the absence on leave of Major K G Gharpurey, I.M.S

TRANSFERS

THE services of the undermentioned officers of the Indian Medical Service are placed permanently at the disposal of the Government of the Central Provinces with effect from the dates noted against their names —

Major (temporary Lieut.-Colonel) R A Needham, C.I.E D.S.O, M.D 2nd April, 1914
Major H Watts, M.B 2nd July, 1915
Major W J Fraser, M.B., F.R.C.S (E), 1st March, 1916
Major C. C. C. Shaw, M.D 17th May, 1916
Major F P Warwick, D.S.O, M.B 18th October, 1918
Major A E Grisewood, M.B. 30th January, 1920

THE services of Lieutenant-Colonel F O'Kinealy, C.V.O, C.I.E., I.M.S are replaced at the disposal of the Government of Bengal with effect from the 25th March, 1922

RETIREMENTS

SUBJECT to His Majesty's approval, the undermentioned officers have been permitted by the Right Hon'ble the Secretary of State for India to retire from the service, with effect from the dates specified —

Lieutenant-Colonel Alfred Ernest John Lister, M.B., F.R.C.S V.H.S Dated 17th March, 1922
Lieutenant-Colonel Thomas Samuel Beauchamp Williams, M.B Dated 7th March, 1922
Lieutenant-Colonel William Ernest McKechnie, M.B, Dated 23rd January 1922
Lieutenant-Colonel Harry Stotesbury Wood, M.B, is permitted, subject to His Majesty's approval, to retire from the service with effect from the 28th January, 1922

Subject to His Majesty's approval, Lieutenant-Colonel Henry Kirkpatrick, M.B, has been permitted by the Right Hon'ble the Secretary of State for India to retire from the service, with effect from the 30th January, 1922

Lieutenant-Colonel Raymound Herbert Price, M.B F.R.C.S is permitted subject to His Majesty's approval to retire from the srvice, with effect from the 13th February, 1922.

PROMOTIONS

THE following promotions are made, subject to His Majesty's approval —

Majors to be Lieutenant-Colonels
Dated 1st March, 1922

John Hanna Murray, C.I.E., M.D
Frederick Percival Mackie, O.B.E., M.D, F.R.C.P, F.R.C.S
Frank Powell Connor, D.S.O, F.R.C.S (Brevet Lieutenant-Colonel)
Samuel Richard Christophers, C.I.E., O.B.E, M.B.
Harry Emslie-Smith, M.B.
Hugh Reginald Dutton
Henry Martyn Brown, M.B
Hugh George Stiles Webb
Wilfrid Wynne Jeudwine, C.M.G, M.D
Thomas Charles McCombie Young, M.B
Walter Julius Collinson, M.B
Cuthbert Lindsay Dunn
Herbert Michael Henry Melhuish D.S.O (Brevet Lieutenant-Colonel)
Raghber Dayal Saigol, F.R.C.S.E.
Cecil Edward Bulteel, O.B.E.
John Lumsden Lunham M.B F.R.C.S.I (Brevet Lieutenant-Colonel)
Frederick Colin Rogers

LEAVE.

LIEUTENANT-COLONEL A. W TUKE, F.R.C.S.I, D.P.H, I.M.S Civil Surgeon, Ahmedabad is granted, with effect from the 10th April 1922, or the date of relief, such privilege leave as may have been due to him on 31st December, 1921, combined with such leave on average pay as will bring the total period of absence up to six weeks

In supersession of the Home Department Notification No 715-Medical dated the 12th August, 1920, Lieutenant-Colonel H Ainsworth, M.B, F.R.C.S, I.M.S, Principal and Professor of Opthalmic Surgery and Diseases of the Ear Nose and Throat, King Edward Medical College Lahore, is granted privilege leave for three months and eighteen days combined with furlough on average salary for four months and thirteen days and furlough on half average salary for four months and four days, with effect from the 15th April, 1920

THE AUTOMOBILE AS A TOOL OF THE PHYSICIAN

AUGUSTUS A ESHNER, M D
PHILADELPHIA

FOR a long time I turned over in my mind the question as to whether I should employ a horse drawn or some form of mechanically propelled vehicle for making my professional visits My objections to the former were 1, Exposure of the animal to cold, heat and wet during long visits at hospital, dispensary or private dwelling, 2, slowness of progress especially in making visits at considerable distances, 3, necessity of a driver or coachman On the other hand, the automobile was in an experimental and transitional stage I bought an electric runabout (147) that had been in use for a few months This proved exceedingly clean and neat, but battery deterioration made it unduly expensive, and I disposed of the car at a moderate loss

Gasoline Best Source of Power Generation.

As time wore on it became clear that gasoline was the most practicable source of power generation as applied to automobiles, and I purchased in January, 1906, a runabout (189) that had been used a short time for demonstration purposes This I ran for seventeen months when I exchanged it for a later model of the same car, which I am now running

I store my car at a nearby garage, where it is washed gasoline oil and water replenished and adjustments and repairs are made as necessary My experience of twenty one months has been most satisfactory The cost of maintenance is, I judge, somewhat greater than that for a single horse and carriage but the service is in every way superior I can cover longer distances in less time and with a zest and certainty that could not be expected from the use of a horse I need have no compassion for a tired thirsty hungry overheated or chilled animal I do not attempt tours or great distances with my runabout, but average perhaps 20 miles a day I select asphalt pavements in the city whenever possible or hard roads in the suburbs, even going out of my way to reach these as tires are thus saved as well as time and riding is easier

The Expense of Maintenance

For the seventeen months that I used my first car the total cost was $925 or approximately $55 a month This includes first cost a top with side curtains (indispensable) and a glass storm shield which I would not wish to be without and every other item of expense such as tires, storage repairs gasoline oil batteries repainting and insurance against fire From this amount is to be deducted the sum allowed in making the exchange The largest item of expense was for tires, amounting in all to $210 for seventeen months Puncture can however be reduced to a minimum by having the tires well inflated and speed is increased by the same means although this is feasible only on smooth roads It would be a great boon if solid tires could be used advantageously

My motor has but a single cylinder and I have no complaint to make on this score It is easy to start it runs smoothly and with ease, it climbs most hills on high gear and any hill on low gear and it is capable of greater speed than I am permitted to use I operate my car myself and therefore prefer a small car for professional purposes -I really think it uneconomical to have a larger and more commodious car than one actually needs

Some Practical Experiences

I have used chains to prevent skidding and side slipping, and to pull through snow and over ice, but I have discarded them largely as they act as a drag on the car and are likewise destructive of the tires I have also used a special tread (190) and find it serviceable until the rubber studs are worn down to the surface of the tire There is another tread (150) which promises protection against skidding slipping and wear The only real safeguard is careful operating One should never have to stop quickly on a slippery surface

I have been able to use my car almost every day in the year, but have chosen not to take it out on severely cold days or when the snow is banked high on the streets I have been able to run my new car on a new set of tires for more than seven months, covering a distance of about 3,000 miles, with but a single puncture, when my tires were somewhat softer than usual The tires are still in fair condition and they look as though they might be good for an additional 1,000 miles or more. By means of a generous admixture of wood alcohol with water in my cooling apparatus, I have also been able to run in cold weather The cost of maintaining my new car for the first seven months has been less than $20 a month

---

LEARNING BY EXPERIENCE

F W WILCOX, M D
MINONK, ILL.

I HAVE used two automobiles in my practice The first year I had a touring car (132), with two cylinders, 16 horse power, chain drive, water cooled and pneumatic tire This car is all right for pleasure, but I did not like the idea of pulling around a big touring car with three empty seats when I made professional calls Next, you have too much trouble with pneumatic tires, too many punctures, and too much expense, still I would rather have a touring car with pneumatic tires than none The next year I bought a car with high wheels, solid tires, air cooled, 10 horse power (133) I have run it about 5,000 miles, at an expense of less than $20 for repairs for one year I can run about 20 miles on a gallon of gasoline, on good roads can make an average time of 15 to 18 miles per hour In ordinary mud about 8 miles If the mud is very sticky or deep, I do not try to use the car, but hire a team In this part of Illinois, where the roads are the best in the world when they are good, and the worst when they are bad, I can make about 90 per cent. of my drives with it

The Ideal Car for the Country Doctor

The air cooled car will cool all right if you give it plenty of oil The engine is only half as heavy as the water cooled, and there are no tanks and no pumps to make trouble My personal experience is that it is a success, but should have more power My ideal car for a country doctor is four cylinders, 20 horse power, air cooled, with high wheels and solid tires, either the double chain or cable drive, the car to weigh not more than 1,200 to 1,400 pounds The cost of keeping that kind of a car, including cylinder oil, batteries, gasoline and all repairs, is not nearly as much as keeping a team of horses You can make your calls in half the time you can with a team and pick up half the price of a car in a year by being at the office more of your time

If Your Wife Learns to Run the Auto, You Will Need Two Autos

If you have a good car and take fifteen minutes each day to look it over carefully, to keep it well oiled and all nuts tight, you will have very little trouble and lots of pleasure in running it If you are a married man and teach your wife how to run it you would better buy two, as you can get it only when she does not want it

---

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L M ALLEN, M D
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Where the roads are good a light single cylinder car of good make will give give as good results as any, and the trouble and expense of upkeep will be less Where the roads are such that more power is required, either a double or a four cylinder car with three speeds forward will be better

(Automobile articles continued on page 787)

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into a normal loop Since the message from the gut to the pancreas, arousing its activity, can not reach it by way of the nervous system, the only possible channel left is the blood stream, and the messenger must, therefore, be some chemical substance discharged into the blood stream, and not a molecular change propagated along nerve fibers That the messenger can not be the acid itself was easily shown by injecting acid into the portal vein, when no effect was produced

We see, then, that acid introduced directly into the blood has no effect, while if it be injected into a cavity separated from the blood by only the epithelial cells of the intestine it has an effect. The chemical messenger, therefore, must be something produced in the epithelial cells under the action of the acid and discharged by them into the blood stream This conclusion was speedily realized When we scraped off some of the epithelium, rubbed it up with acid, and injected the hastily filtered mixture into the blood stream of the animal, a flow of pancreatic juice was obtained considerably greater than any we had hitherto obtained as the result of injecting hydrochloric acid into the lumen of the intestine

To this chemical messenger we gave the name of "secretin" In order to obtain it free from admixture with the protein constituents of the cells, the ground-up intestinal epithelium was boiled with 0 4 per cent hydrochloric acid and while boiling was neutralized In this way all the coagulable protein was thrown down The filtrate was found to exert a strong exciting effect on the secretory activities of the pancreas

This mode of preparation shows that secretin is neither a ferment nor a protein Other experiments have shown that, while fairly stable in acid solution, it is very rapidly destroyed in alkaline solution It is soluble in fairly strong alcohol, or alcohol and ether, but is insoluble in absolute alcohol It is fairly diffusible through parchment paper and is not precipitated by the ordinary alkaloid precipitants The ease with which it undergoes oxidation has hitherto foiled all attempts to isolate it in a pure form, but the properties mentioned suggest that it is a body of comparatively low molecular weight, and that it ought to be possible to obtain it in crystalloid form In much of its behavior it resembles adrenalin, the isolation of which presented at first many difficulties, but was finally successful in the hands of Takamine This body, secretin can be regarded as a type of a whole group of chemical messengers, which formed in one organ travel in the blood stream to other organs of the body and effect correlation between the activities of the organs of origin and the organs on which they exert their specific effect For these chemical messengers we have suggested the name of "hormone" from ὁρμάω I arouse or excite

It may be remembered that Ehrlich divided the chemical agents which act on the organism into two classes, which we may shortly describe as the toxins and the drugs As a type of the first class, we may instance a poisonous constituent of jequirity which has been called abrin of castor-oil seeds ricin as well as the toxic products of pathogenic micro-organisms such as the well-known toxins of diphtheria or tetanus All these bodies introduced in minimal doses into the organism evoke characteristic effects either local or general The specific character of their physiologic action suggests that these toxins have special affinities for one or other tissue of the body affinities conditioned by their chemical character as well as by that of the affected organs

In this respect they are entirely analogous to the drugs which form the main part of our pharmacopeias, and of which we may take strychnin, morphin or arsenic as types There is, however, one marked distinction between the two groups When repeated small injections are made of a body belonging to the group of toxins, the physiologic effect produced becomes progressively less, and it has been established that the immunity to their action which is thus brought about is due partly, at any rate, to the formation of substances in the organism which are the physiologic antagonists of the toxins and have the power of combining with and neutralizing these substances

Thus, if the blood serum of an animal rendered immune by repeated doses of diphtheria toxin, is mixed with some of the diphtheria toxin itself, the resultant mixture, which may contain many hundred times the lethal dose of toxin, may be injected into an untreated normal animal without producing any effect Although in the case of certain of the drugs, such as morphin, a limited degree of tolerance may be established, there is no evidence of the production at any time of antitoxic substances in the treated animal

Now, it is evident that if a substance is to act repeatedly as a chemical messenger through the medium of the blood between one organ and another, its function would be abolished if the discharge of the chemical message into the blood stream gave rise to the production of an antibody These chemical substances, or hormones, must, therefore, as a necessary condition of their function, belong to the class of drug substances, generally crystalline, or at any rate not belonging to the colloid class, of definite chemical composition, and in most cases of comparatively low molecular weight Their action on the chemical basis of the protoplasm must be determined by their molecular structure, and in all probability must be ranked with the purely chemical processes, rather than with those mixed chemical and physical processes which determine the formation of adsorption compounds and distinguish the interaction of one colloid with another, as well as of toxins with the animal cell or with their corresponding antitoxins

It is only necessary to remind one of a number of well-established correlations of function effected by the intermediation of these hormones in order to carry conviction of the very large part that they must play in the normal processes of the body In the alimentary canal itself, the chemical correlation between intestine and pancreas does not stand alone Thus, Pawlow showed that the secretion of gastric juice occurs in two phases, the first phase being excited through the vagus nerve by appetite or by impulses from the mouth, while the second phase was determined by the presence of certain substances in the stomach Edkins has shown that the secondary secretion of gastric juice is determined by the production of a hormone in the pyloric part of the mucous membrane under the influence of the first products of digestion, and that this hormone is absorbed by the blood and carried by it to the gastric glands of the fundus which are thereby excited to renewed activity

The secretion of the intestinal glands is partly excited through the local nervous system by the mechanical stimulation of the mucous membrane It is probable however, that the pancreatic secretin formed in the duodenum and perhaps other hormones produced in the intestine, have a direct action through the blood on the secretory processes of the small bowel The

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14-16, Green Street, BOMBAY.

Dakin has synthesized a whole array of substances which are closely allied to this body in their chemical structure as well as in their physiologic influence on the animal organism

In order to comprehend the point of attack of adrenalin, the specific secretion of the medullary part of the suprarenal glands we shall do well to go back to the mode of development of these organs It was shown by Balfour that the suprarenals have in the fetus a two-fold origin, the cortex being derived from the mesoblastic tissue, known as the intermediate cell-mass, while the medulla is formed by a direct outgrowth from the sympathetic system, and consists, at first, of an aggregation of neuroblasts In some animals, e g, teleostean fishes the two parts of the gland thus formed remain separate throughout life, but in the higher vertebrates the sympathetic outgrowth becomes surrounded by the cortex and the cells rapidly lose all traces of resemblance to a nerve-cell But the medulla is genetically part of the sympathetic system, and its specific secretion, adrenalin, has an action which is apparently confined to the sympathetic system In whatever part of the body we test the effects of adrenalin, we find that they are identical with the results of stimulating the sympathetic nerve fibers which run to that part. Thus, in all the blood vessels of the body, adrenalin causes constriction, the contraction of the heart muscle is augmented, the pupil is dilated, while the intestinal muscle, with the single exception of the small ring of muscle forming the ileocolic-sphincter, is relaxed The action of the sympathetic on the bladder differs, as shown by Elliott, markedly in various animals, but, whatever its effect, a similar one will be produced in the same animal by the injection of adrenalin

I have already mentioned that excision of the suprarenal bodies causes a profound fall of blood pressure, which continues until the death of the animal and it has been stated that, when this fall is well established, it is impossible to raise the blood pressure by stimulation of the splanchnic nerve, or, indeed, to produce any effect at all on stimulation of the sympathetic nerve Thus not only does adrenalin excite the whole sympathetic system in its ultimate terminations, but its presence in the body as a specific secretion of the suprarenal bodies seems to be a necessary condition for the normal functioning by ordinary reflex means of the whole sympathetic system We are dealing here with a problem which betraying as it does an intimate relationship between nerve excitation and excitation by chemical means promises by its solution to throw a most interesting light on the nature of the nerve process and of excitatory processes in general

Our knowledge of certain other members of this group of chemical reactions is so shadowy that a mere mention of them will suffice As an antithesis to the vasoconstrictor action of adrenalin we find that every organ when active is supplied with more blood in consequence of a vasodilatation of the vessels which supply it In certain instances, Bayliss and I have found that boiled extracts of organs, when injected into the circulation may evoke vasodilatation of the same organs of the animal under investigation, and we have suggested that the normal vasodilatation accompanying activity is brought about in consequence of the specific sensibility of the arterial walls to the metabolites of the organ which they supply Too much stress however, can not be laid on these experiments, since a more extended series by Swale Vincent has failed to give a general confirmation of our results

The severe diabetes, which, as shown by Minkowski, can be produced in nearly all animals by total excision of the pancreas, has been held to denote the normal production in this organ of some substance which is indispensable for the utilization of carbohydrates in the body All efforts to obtain a more exact idea of the nature of this pancreatic substance or influence have so far proved in vain Ordinary sugar, when placed in contact with extracts of muscular tissues, undergoes oxidation, and Cohnheim states that this process is much accelerated if an extract of pancreas be added to the extract of muscle A repetition of Cohnheim's experiments by other observers has shown that the effect is so small as to be almost accidental, and we must, therefore, regard the nature of the pancreatic influence on carbohydrate metabolism and the causation of pancreatic diabetes as problems still to be solved

In the case of the pituitary gland we have an organ of, as yet, unknown function, but which we must regard as concerned in determining the activity of widely differing parts of the body, probably by the production of chemical substances or hormones Pathologically, all we know is that disease of this organ is apt to be associated with overgrowth of the osseous system As a result of physiologic experiment, we know that from the nervous part of this organ we can extract, as Schafer has shown, a substance which, like secretin, is unaltered by boiling, and which has a specific action on the secretory activity of the kidney, producing diuresis, which can not be ascribed simply to the concomitant changes in the circulatory system This extract, moreover, has a marked influence on the uterus What part is played by this pituitary influence on these distant organs in the normal working-life of the body we do not know as yet

So far the chemical adaptations which I have described have resulted almost exclusively in increasing the activity of the responding organ We can not, however, draw a sharp line between reactions involving increased activity or dissimilation and those which involve increased assimilation or growth, since under physiologic circumstances the latter is always an immediate sequence or accompaniment of the former

In a certain number of chemical correlations the primary effect of the hormone is increased growth or assimilation In these cases, since the assimilative stimulus builds up the responding organ, its final effect is to increase the activity or functional capacity of this organ Just as dissimilation brings about later increased assimilation, so increased assimilation brings about later increase of dissimilatory capacity

The most familiar example of a chemical correlation, evoking the building up of tissues, is that presented by the thyroid gland though the effects of the chemical substance formed by the thyroid are so widespread, and differ to such an extent according to the age of the animal employed, that a physiologic analysis of its results is still difficult to give In the growing animal the chemical substance secreted by the thyroid evidently influences the growth of tissues, among others of the bones, and it is a familiar fact that injection or administration of thyroid to cretins will result in a restoration of the child toward normal, in increased growth of bones and in development of various functions, including those of the brain and central nervous system In adults, on the other hand, the most pronounced effect

Original Articles.

AN INVESTIGATION INTO THE CAUSATION OF LATHYRISM IN MAN

By MAJOR HUGH W ACTON I M S

Professor of Pathology and Bacteriology School of Tropical Medicine and Hygiene Calcutta

In August 1921 Major H W Pierpoint I M S invited me up to Sutna to investigate the disease lathyrism, a type of spastic paraplegia, common amongst the inhabitants of North Rewah

The paralysis is regarded by the people as due to eating an exclusive diet of *kesari dâl* (Lathyrus sativus)

Major Pierpoint assured me that the disease was very prevalent in this part of the State and during the few days I had at my disposal, I ought to have no difficulty in examining at least a couple of hundred cases He wanted to know what measures to take to prevent this terrible affliction which crippled for life so many of the subjects of this State

I was anxious to collaborate, but Major Pierpoint requested me to conduct my own investigations on this disease, for he was only too glad to have given me the lead I am therefore indebted to him, not only for having instigated this research, but also for his help during the clinical examination of these cases, and furthermore for obtaining the necessary information from the various State officials about the harwar system and other factors that play so large a part in the causation of this disease

Three species of lathyrus are regarded as causing epidemic and endemic poisoning in man and animals They are —

(1) *Lathyrus sativus* —Generally known in India as *kesari dâl, teora or buttorah ka dâl* The peas are of two sizes, the larger known as lakh is grown on dry wheat land, and the smaller lakhari is cultivated on wet rice fields

In Rewah, the larger grain lakh which is imported from Bhagalpur, is regarded as more poisonous than the smaller indigenous vetch

The *kesari dâl* is taken in various ways by the common people It may be ground into flour, and eaten raw , the raw flour is moistened with water, salt and chillies added, and the mash is known as *sutto* or the flour may be made up into hand-bread or *chappatics* and baked on an iron plate

The vetch is also boiled in water with salt and onions, the thick pea soup as known as *dâl* and eaten with the hand-bread, or the boiled vetch may be made up into small thick cakes, fried in clarified butter (ghee), or oil and called *puris* The vetch is used both as a food for cattle, as well as for man, and owing to its cheap price, it is eaten all the year round by these people

In times of plenty it is eaten as a *dâl,* with wheat hand-bread, or rice, or as *puris,* but in times of famine owing to the high price of wheat and rice their diet is forced to consist only of *kesari dâl* Vegetables, etc , are unobtainable during the drought

(2) *Lathyrus cicera* —The dwarf chickling is grown in France, Italy, and Algeria, and is used as fodder for cattle When wheat is dear, it is used instead of flour to make bread

(3) *Lathyrus clymenum* —The Spanish vetch, is grown in Spain, North Africa and the Levant

In India we are only concerned with the Lathyrus sativus or *kesari dâl* Some believe that the *dâl* itself is not poisonous, but that the seeds decompose, or some parasitic growth takes place, and the poison is produced in this way , similar to the production of ergot Others consider that the symptoms are due to the *Agrostemma githago* (the corn-cockle), or to the *Lolium temulentum* (the darnal)

In 1883, Astier isolated an alkaloid which he regarded as the poison, but gave no experimental evidence in support of his view In 1917, Stockman also isolated an alkaloid, but only in very minute quantities, and he was unable to obtain a sufficiently large amount to analyse its molecular formula Furthermore Dr Sudamov Ghose, M Sc has been working on the chemical aspect of the subject and has isolated a non-toxic amine which gives most of the alkaloidal tests

The chemistry of the amine produced in the grain during germination will be dealt with separately, as the research is still not complete

People will not live on an exclusive diet of *dal* or vetch unless compelled to by famine, and I will show that the problem of the prevention of lathyrism is simple enough by my finding that the poison is water soluble, *i e ,* it can be removed by soaking the grain in three changes of water during the 24 hours Yet when we are dealing with a half starved illiterate population who are forced by circumstances to live on a partial or exclusive diet of this vetch, the soaking of the grain, even if it were carried out, would interfere with the making of flour

The solution is therefore a sociological one, and should consist as I will show, in the abolition of the harwar system, the controlling of food prices and relief during famine years, and the utilisation of the mineral wealth, which at present is practically unworked as concessions are rarely granted to companies

Actiology —The disease is very common in some parts of Central India and the United Provinces Irving, 1857, in the North-West Province, now the United Provinces, considered that in some districts as many as 6 per cent of the population were affected whilst A Buchanan, 1904, estimated that about 7,600 persons were affected in the Saugor district alone

From Sutna to Rewah a distance of 30 miles, I kept count of the number of persons we met

responding conditions That this onset of lactation is not due to any stimuli, chemical or nervous, received by the mammary glands from the involuting uterus or ovaries is shown by the fact that it may be brought on by performing total extirpation of ovaries and pregnant uterus The essential feature therefore seems to be in this case the removal of the growing fetuses

In order to determine the nature of this connection, Miss Lane-Claypon and I carried out a number of experiments in which extracts made from different parts of the immature rabbit fetuses were injected into virgin rabbits In a certain number of cases, where the injections had been sufficiently numerous, we got well-marked hypertrophy of the mammary glands similar to that observed during the earlier stages of pregnancy From our results we came to the conclusion that the growth of the mammary glands during pregnancy is due to the assimilatory or inhibitory effects of a specific hormone produced in the body of the fetus and carried thence through the placenta by the fetal and maternal circulations The removal of the inhibitory stimulus at the end of pregnancy determines the spontaneous breakdown of the built-up tissues, i. e., activity which in these cells is expressed by the formation of milk

It is probable that many other instances of chemical correlation will be revealed by future research Already, however, an enormous material for experimental investigation is afforded by the facts I have already brought to your notice In only two of the instances of chemical correlation do we know the chemical nature of the hormone Future research must determine the chemical nature of the hormone in each case, as also the conditions of its formation and the part it plays in the normal chain of events or adaptations which make up the life of the animal organism

In working out these problems we may look forward to the prospect of increasing power over the functions of the body The whole of medical science is but a struggle for control of the processes which determine the life of man, and no field seems to me more promising than that over which we have to-day cast a fleeting glance A knowledge of the whole field would place us in command of the means employed by Nature herself for determining the activities of most of the functions of the body viz drugs or hormones, which effect their purpose and are then destroyed It was in view of the prospective importance of this field of studies in the future work of the medical man that I have ventured to present the subject at this time

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Silver Ionization in Treatment of Urethritis—Melun of Bucharest reports the successful treatment of chronic urethritis by irrigation with a 1 or 2 per cent solution of silver nitrate decomposed by the action of an electric current In his communication to the *Ann d Mal Gen Urin* Nov 15 1907, he gives an illustrated description of the sound he uses for the purpose It is made of hard rubber about 9 inches long and the size of a No 18 Charriere sound It is closely studded with perforations a wire inside running to the tip of the sound is connected with a galvanic machine He injects about 10 gm of the fluid closes the stopcock to hold the fluid in the urethra and turns on the electric current, with the negative pole applied to the patient's body The current can be gradually increased to 30 or 40 milliamperes without discomfort, and the sitting is continued for fifteen or thirty minutes This releases the ions of silver and drives them into the tissues curing inflammation of long standing rebellious to all other measures

Original Articles

PASSIVE HYPEREMIA

BY MEANS OF THE CUPPING-GLASS OF BIER AND KLAPP

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During the last few years there has been a great deal written[1] about the treatment of infections (pyogenic, tuberculous, gonorrheal, etc.) by means of hyperemia according to the methods of August Bier American physicians and surgeons traveling abroad have had ample opportunities to see the treatment used and the striking results obtained, and, indeed, many have gone to Bier's own clinic in Bonn (now in Berlin) for that express purpose Still we have been rather reluctant to adopt this simple, time-saving, pain-relieving, effectual remedy There has been comparatively little written about it in English, and what has been written was mostly concerned with results and opinions as to efficacy, etc., rather than methods and technic, so that it seems wise at this time to give a somewhat brief outline of these last At some future date the results obtained at the Johns Hopkins Hospital Surgical Dispensary will be given

As is well known, there are two distinct kinds of hyperemia, active and passive or arterial and venous Each has its place in the method as used by Bier, but as this paper is to deal only with hyperemia as produced by the cupping-glass (Schropfkopf), the venous or passive form alone need be considered

The use of the cup is not new, and Bier himself is the first to acknowledge this, making no claim to a discovery All over the world people have been cupping inflammations, sores and the like for years, but in a crude and clumsy manner About 1890 Bier began to use the cup in the treatment of tuberculosis, although marked success did not follow this attempt, probably as he later says, because too much pressure was used Thus the method fell into disuse until, some few years later, Dr Rudolph Klapp, assistant to Bier, again tried it in the treatment of mastitis He had seen the poor results, as far as future functioning goes, obtained by the usual method of radial and wide incision in the breast for infection Numerous methods of treatment had been devised to avoid this such as Bardenheuer's half-moon-shaped incision at the base of the breast *and drainage from below but none of them gave satisfactory results* Therefore Klapp decided to try the cup and with very happy results

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1 Those wishing to refer to previous publications will find the following of value

Adams Value of the Bier Treatment N. Y. Med. Jour. 1906 lxxxiv p. 336-8

Bier Hyperæmie als Heilmittel also Die Behandlung akuter Eiterungen mit Stauungshyperæmie Muench. med. Wochschr. 1905 Nos. 5, 6, 7 also Hyperæmie als Heilmittel Montreal Med. Jour. 1906 xxxv p. 391-9

Bloodgood Progressive Medicine December 1906 and 1907

Bradford The Hyperemia Treatment of Congested and Inflamed Tissues Boston Med. and Surg. Jour. 1906 clv 671-674

Feuer The Bier Treatment by Hyperemia Med. Rec. 1906 lxix 290-3

Codman On the Bier Treatment of Infected and Septic Wounds of the Extremities Boston Med. and Surg. Jour. 1906 clv 434

Klapp Ueber d. Behandl. entzündlicher Erkrankungen mittels Saugapparaten Muench. med. Wochschr. 1907 No. 16

Willy Meyer Bier's Treatment (Stauungs hyperemia) in Chronic and Acute Surgical Infectious Diseases THE JOURNAL A. M. A. 1907 xlix No. 7

Berthes Erfahrungen bei der Behandlung des Empyems der Pleura Mitt. a. d. Grenzgeb. d. Med. u. Chir. vol. 7 Nos. 4 and 5 1901

Tillmans Ueber die Behandl. durch von Stauung Deutsch. med. Wochschr., Leipz. u. Berl. 1905 xxxi 1-3 132

TABLE 2

Date of year	1920 21 *	1919 20 *	1918 19	1917 18	1916 17	1915 16	1914 15	1913 14	1912 13	1911 12	1910 11	1909 10 *	1908 09 *	1907 08 *	1906 07	1905 06	1904 05	1903 04	1902 03	1901 02	1900 01 *	1899 1900	1898 99	1897 98	1896 97 *	1895 96	1894 95	TOTAL
No of years	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	
No of cases	1	16	10	7	3	1	6	2	1	32		26	2	3	39	3		7		25	8	1			8		1	204

The asterisk denotes the famine years as reported by the state officials

especially in the month of (*Asar*), July The distribution was as follows —See table 3

TABLE 3

Month of Onset	April	May	June	July	August	Sept	October	Nov	TOTAL
	5	10	19	122	21	10	12	5	204 cases

The tehsildar informed me that in most years the local crops in Rewah are exhausted by March or April, and *kesari dâl* is imported from Bhagalpur as the food supply becomes scarce by July The common people have therefore to subsist on the cheapest article of diet, *viz*, *kesari dâl* if the monsoon fails in June, then all the fresh food supplies, *e g*, vegetables, etc, are unobtainable except at very high prices, and the people have to subsist on an entirely vetch diet

When the local crops of rice and wheat have failed owing to a bad monsoon, *kesari dâl* is planted and ripens in October The absence of cases during the months of December to March is very suggestive of one of two factors

(1) The indigenous small grained *kesari dâl* is not poisonous, or (2) the diet is sufficiently varied with other articles, *e g*, local grasses, etc, so that the amount of *kesari dâl* is kept below poisonous limits

Both factors play a part in preventing lathyrism during these months, as I will show later With the advent of April the first few cases are seen, whilst in July over 50 per cent of the cases occur during the month The evidence this table shows is —

(1) That the disease is associated with eating imported *dâl* (Bhagalpur dâl) as the incidence coincides with the importation of this vetch in March and April and is maintained until October and November when the local *kesari dâl* is gathered for consumption

(2) The high incidence of the disease in July is probably associated with the production of poisonous amines during germination The large Bhagalpur vetch germinates more readily than the local small grain which sprouts with difficulty

(3) The association with an exclusive diet, which occurs during famine years, suggests that the toxin is only present in small quantities in the grain

The association with chills —In many of the cases, the people are quite definite that cold or chill predispose to the disease I have already quoted the overseer's evidence that the disease was caused by the cold wind blowing from the hills Other state that they were at work in the fields and got wet, when they came back home they noticed that they were unable to walk properly

The great predisposing cause of lathyrism is *the harwar system or system of bondage* I will therefore give a brief description of how the system was carried out in the State

The owners (Kasanah), are generally Brahmins or Thakurs who owing to caste prejudices are unable to plough their own land The bondmen (*luguwars*) are taken on during the month of May, Rs 8—10 are advanced for boys, and Rs 30—40 for adult men Should they want to be freemen, they have to pay the owner about Rs 15 more than advanced to them The bondmen, if not married, are lent the purchase money for a wife Rs 20—30, and whilst they are in bondage the children of the marriage become the property of the master The Kasanah, if he wishes, can sell these children as soon as they are old enough to work in the fields

During the régime of a British Regent, the practice has been suspended as far as the law is concerned, but previously the court could issue an order compelling the bondman to return to his owner

These bondmen are not usually paid in money, but given their food In times of famine the owners themselves have barely sufficient to live upon, and the bondmen must be fed in order to work, so they are given the cheapest food, *viz*, *kesari dâl*

The helplessness of these poor people is pitiable on questioning one of them why he persisted in eating *kesari dâl* when he knew it was bad for him, he replied, "Sahib, one has to eat to live, even though the *dâl* is poisonous and produces paralysis"

I was astonished to find this blind spot in the all seeing eye that ever watches to suppress slavery in civilized countries

Symptoms and Signs —The onset of the disease practically always comes on suddenly The

day for the first few times after that every other day, then every three days or every five days until cured.

A simple wet dressing is applied after each treatment. Squeezing or massaging of the part to get out the remaining pus, is not allowable, nor is curetting. It is best also to avoid the probe, though at times its use is demanded for purposes of exploration. The use of drains in any way, shape or form is not permissible. Splints, too, are to be avoided. On the contrary, the patient should be encouraged to make use of the affected member.

Frequently patients present themselves early in the course of the infection (as for instance, in a beginning furuncle, carbuncle, ischiorectal abscess, bubo, etc.) before localization has occurred, only the usual redness, swelling, tenderness and infiltration being present. The treatment in these cases should be instituted, as outlined above, without making an incision because resolution sometimes follows without the use of the knife. Where however, incision is demanded a cut 1 to 1½ cm. long is made under ethyl chlorid anesthesia and the cup is applied immediately. From day to day as the tissue breaks down and the pus is drawn out, the hyperemia soon overwhelms the infection and resolution follows, no drainage having been used.

In cases of bone tuberculosis, sequestra are sometimes drawn out, at other times, although they are known to be present they do not come away and are best left undisturbed, for Bier has found that occasionally they reunite with the healthy bone. Likewise, the formation of cold abscesses is not to be looked on as an untoward occurrence, but rather as a necessary phase in the course of the disease. They should be recognized promptly and the usual incision (1 to 1.5 cm.) made, after which the cup is to be used. Curetting, probing or injection of iodoform emulsion is best avoided. These increase the chances for secondary infection. Immobilization is unnecessary; on the contrary, mobilization is desirable for it has been found that healing takes place just as rapidly if not more rapidly under these conditions. The difference in the end results is self-evident.

In cases of acute mastitis it is essential that the diameter of the cup exceed that of the breast by at least 1 cm. in order to avoid pain. The treatment is in general the same as in any other infection although there is one difference worthy of attention. It happens at times that although the breast is engorged with milk and there is in addition a great deal of pus present the large cup draws almost nothing away. Here a small cup should be applied over the nipple and incision after the treatment simply to draw off the pus and milk. This quite naturally may give rise to some pain, but is hardly necessary more than two or three times after which drainage will be free with the big cup alone. This procedure of course, is to be adopted only in the presence of pus. Where no breaking down of tissue has occurred the simple cupping, without incision may be proceeded with as these cases often clear up in a very few days.

There are instances when prudence advises against the use of the cup and urges an immediate radical operation with drainage. We believe we have had two such cases. One was a huge mammary abscess of four weeks' duration in which the breast was twice the ordinary size, very tense and extremely tender to the touch. The other was an infection of the hand originating in a finger, where the process was so rapid and the infecting agent so virulent that it was deemed unsafe to trust to anything but wide and deep incision with drainage, and the rubber band (another means of inducing passive hyperemia) around the upper arm.

It is wise, therefore, in this, as in any other procedure, not to be too radical or dogmatic. Undoubtedly, cases do occur where the use of the cup is positively harmful and contraindicated. At times this will be self-evident, as in the two cases just mentioned, but once in a while only a trial of the cup can lead to a decision. It goes without saying that if the process, after one or two treatments, does not at least come to a standstill, the cup should be given up. But it occasionally happens that, while there is no actual backward step, the process does not progress toward recovery. We have made it a rule in these cases that, if there has been no error in technic or other evident reason for the failure, the cup would best be discarded after about one week's trial.

The advantages claimed for this method of treatment are:

1. Relief of pain. This is one of the most striking yet inexplicable features connected with it. The throbbing, jumping, beating pain of a mastitis is often checked in one treatment with the cup—and this is true even when there is no pus and, consequently, no incision.

2. Rapidity of cure, the course of the disease being materially shortened.

3. Preservation of function. The tuberculous joints are not immobilized, healing taking place with motion, very frequently. The wide, radial incisions in the breast are not made, hence there is a minimum of scar tissue, which so often destroys the function of the gland.

4. The discarding of the drain, in itself a distinct advance.

5. Simplicity. The physician as well as the surgeon, can use the method successfully.

THE FREQUENCY AND THE SIGNIFICANCE OF ENDOMETRITIS FROM THE STANDPOINT OF TREATMENT

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At present it is a matter of some importance to know just how frequently the endometrium is the seat of inflammatory or other changes which require treatment. Such knowledge is especially valuable in reference to cases in which the sole pelvic lesion is supposed to be located in the mucosa of the uterus.

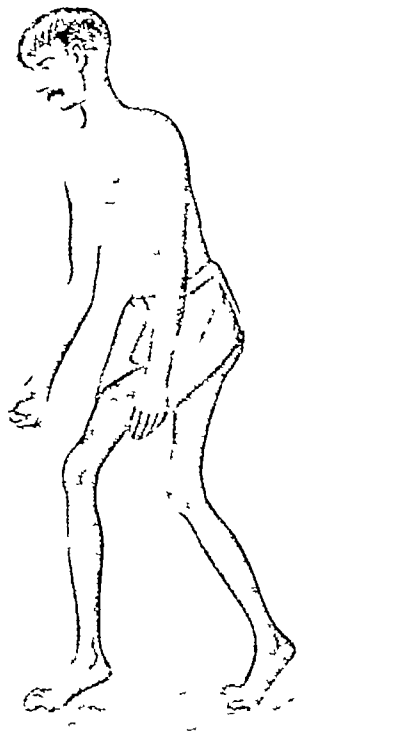
To those who in gynecologic practice are constantly meeting pelvic disease in its various forms the idea which is more or less prevalent concerning the part played by the endometrium in such diseases is a matter of surprise. For the truth is that the endometrium of itself is rather infrequently the seat of any pathologic alteration which would justify treatment directed to it alone. Notwithstanding this fact the pathology and the treatment of endometritis are widely discussed subjects.

Tucker[1] first drew attention to the unwarranted consideration the subject is given in text-books. Thus in six books taken at random, twenty-seven different varie-

1. Etiology and Treatment of So-called Endometritis, THE JOURNAL A. M. A., Nov. 11, 1905, page 1480.

PLATE I

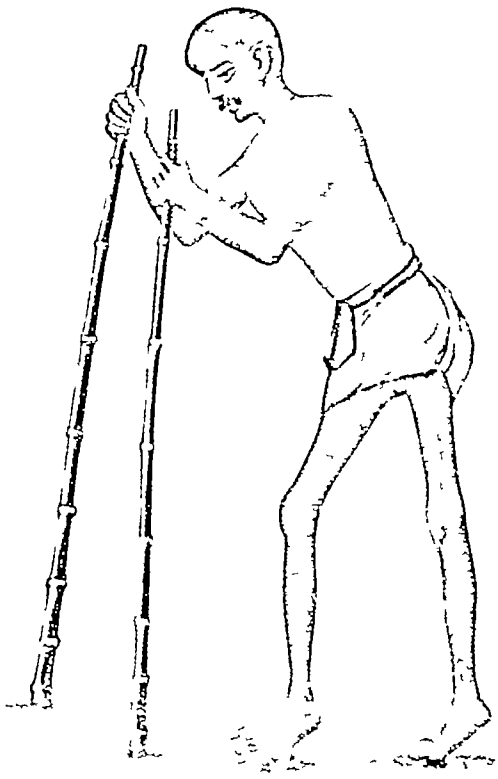
The character of the gait in the different stages of Lathyrism



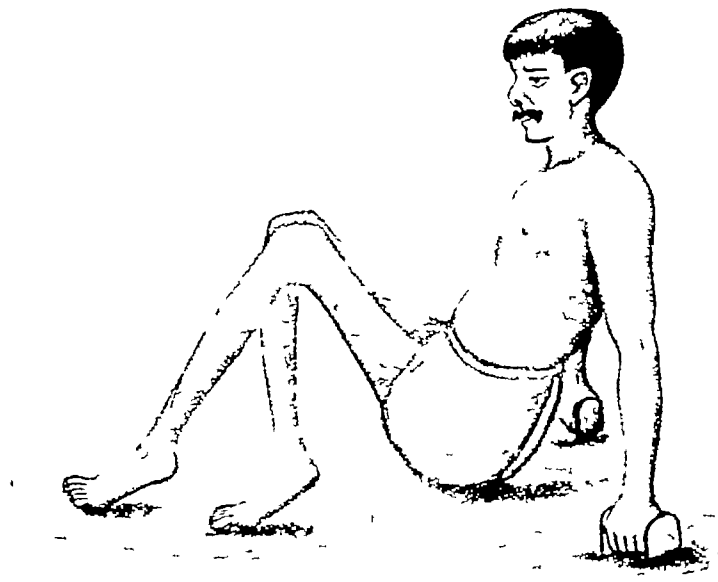
1st Stage



2nd Stage



3rd Stage



Final Stage

appeared normal in 80, or a little less than half, among 81 cases of repair or amputation of a lacerated cervix the endometrium was normal in 15, in 78 hysteromyomectomies the endometrium was normal in 11, out of 60 cases of pelvic inflammatory disease the endometrium was normal in 12, and in 53 cases of retroposition of the uterus the endometrium was normal in 24. As curettement was not performed and the endometrium was not examined in any cases which did not present the indications of endometrial disease, or of malignant growth, it can be seen that the number of times alterations were found in the 483 specimens above represents the number of times a diseased endometrium was encountered in the service at the University Hospital from October, 1899, to October, 1907. There were 2,286 gynecologic patients during this time. Among them there were 337 instances of diseased mucosa but only 94 occurred as clinical entities, and 243 were associated with more serious lesions requiring operation.

It can at once be seen that the endometrium is diseased in no more than half of the cases in which curettement is done for a suspected endometritis. The endometrium is most apt to be affected in connection with some other lesion which requires treatment, as is evidenced by the comparative frequency with which endometritis is found associated with a diseased cervix or fibroid tumors or pelvic inflammatory disease. Even in cases of retroposition in which the patients complain of a discharge the endometrium is normal in a large proportion.

The practical conclusion to be drawn from this analysis is that one must be very guarded in promising a patient that a given uterine discharge will be cured by a curettement. Furthermore, the non-operative treatment of leucorrhea by the direct application of antiseptic or caustic solutions to the uterine cavity is almost never justified. Such a plan would, as we have indicated, be useless in half of the cases even though none of the dangers incident to a proceeding of this sort made themselves manifest. The treatment of endometritis by intrauterine applications of formalin, so fully described by Menge[7] several years ago, can surely never find a place in the therapy of a general practitioner, and never in the hands of a gynecologist, unless the patient is under ether and the cervix has been dilated.

A chronic discharge from the uterus which is dependent on pelvic disease usually requires more than a curettement or intrauterine applications. In the case of a uterine discharge for which no pelvic origin is apparent general tonic and hygienic treatment should be given a fair trial before resorting to curettement or to any intrauterine manipulations.

1819 Chestnut Street.

7. Die Therapie der chronischen Endometritis in der allgemeinen Praxis. Arch. f. Gynäk., lxiii, 1 and 2.

Metabolism During Courses of Mineral Waters.—G. Rem Picci published in the *Policlinico* July and August, 1907, a series of researches on the metabolism during ingestion of various mineral waters. The data presented seem to show that the mineral waters have an unquestionable action on the cells, stimulating them and favoring expulsion of waste, especially the elimination of nitrogen and uric acid. This stimulating action occurs on ingestion of even a moderate quantity of the water and it is not necessary to drink excessive amounts. The stimulating effect soon wears off consequently the course of mineral waters should be brief and resumed after an interval, if desired.

DELIRIUM DURING AND AFTER TETANUS

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Serious mental symptoms of any kind rarely occur during or after an attack of tetanus. In the great majority of cases consciousness remains unclouded, judgment fairly clear, memory good and the moral sense normal, until the end or very near the end. Emotional control, when we consider that almost always the patient, if an adult, knows he is suffering from a very serious disease, is usually better than would be expected. When, then, mental symptoms do occur, three questions arise: (1) Is the abnormal mental state a mere accidental complication, merely happening at the time of the tetanus and in no way caused by it? (2) Is it due to the medication employed? (3) Is it the direct result of the exhaustion produced by the disease or a result of a secondary intoxication set up by the primary intoxication of the tetanus bacillus?

In certain of the acute infectious fevers, for example, typhoid, pneumonia and smallpox, in addition to the febrile delirium which is very common, a confusional state, followed by death, recovery, or permanent dementia, occurs frequently enough to make mere accidental coincidence impossible. The confusion is most likely due to the exhaustion from the disease, though it is possible that it may be due to secondary perversions of the chemistry of the body, caused, primarily, by the toxin of the infection. The symptoms are the same whatever acute infectious fever the patient may have had. A similar confusional state sometimes occurs during pregnancy and after parturition.

These mental sequelæ are so well known that they do not need discussion. They, and delirium during the attack, are, however, very rare during or after tetanus. I have seen delirium in only three patients in a quite large number of cases. In one case I am not sure that the mental symptoms were not caused by the bromid and chloral used, in another, I believe the previous abuse of alcohol was a large causative factor, while in the third I can find no cause save exhaustion and the influence of fever in a susceptible person.

Case 1.—The patient, a negro, 30 years old, was admitted to the Philadelphia General Hospital, June 6, 1898, complaining of stiffness of the trunk and legs, and attacks of colicky pain at the pit of the stomach, coming on about every half hour, and lasting a few minutes. His previous history had been uneventful, except that he had had gonorrhea one year before admission, and that a urethral discharge had reappeared ten days before admission. There was no history of any accident, but his feet which were far from clean, were covered with many superficial scratches and cuts in all stages of healing. He stated that three days before coming to the hospital he noticed, on getting out of bed that his legs were stiff, and that he could walk only with difficulty. He tried to overcome the stiffness by walking but that made it worse. He returned to bed, and as the day passed the rigidity became more marked. About 3 o'clock in the afternoon, the first attack of epigastric pain occurred, accompanied by great dyspnea. The next day, the rigidity of the legs was so great he could scarcely walk. By this time his back also had begun to be stiff. He did not notice any stiffness of the jaw until his admission to the hospital.

Examination on Admission.—He was a well nourished muscular negro. His facial expression was anxious, but he showed no mental symptoms of any kind. The thighs and legs were rigidly extended. There was slight opisthotonos. The abdominal muscles were rigid. The jaw was at this examination free except that whenever there was a sudden increase in the

The man was of an unstable mental type, not at all alert, emotionally very weak, had little power of self-control and was a victim of alcohol I think any stress at all would have been sufficient to upset for the time being his mental equilibrium and in that sense the tetanus was, I have no doubt, the cause of his delirium, but I do not think it was the one specific cause needed Any other sudden stress would have been as efficient.

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A TYPHOID FEVER EPIDEMIC FROM INFECTED MILK.

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BRIDGEPORT, CONN

During August and September, 1907, there occurred in Bridgeport, Conn., thirteen or more cases of typhoid fever originating from a common source The features in connection with this epidemic which seem worthy of general consideration are (1) The importance of investigation, on the part of health authorities, of every case of typhoid fever reported to them, (2) the desirability of examination by attending physicians of blood and excreta in doubtful cases of this disease, and (3) some facts concerning the Widal test and dissemination which are sometimes overlooked

On September 14 I attended a patient presenting the classic symptoms of typhoid fever Inquiry developed the fact that there were four or five cases in the immediate neighborhood, all partaking of milk from the same dairy It has never been the custom of our local health officers to investigate the source of typhoid fever, so that, while the cases mentioned had been reported to the health board by the attending physicians, the common source of the trouble remained unrecognized

A list was procured of cases reported to the local health authorities, twenty-seven in all and with the cooperation of the milk inspector and the various attending physicians, each case was carefully investigated Thirteen positive cases and two doubtful ones, out of the twenty-seven had consumed milk sold by one dairyman Four patients had eaten clams from a common source Two of the four died, the other two cases ran mild courses

Of the thirteen positive cases typical clinical manifestations were present in all, Widal reaction present in eleven, not tested in two There was one death, eight patients were severely ill, and the remaining cases ran mild courses

The dairyman, an ordinary vender of milk, was not a producer but a middleman, procuring his supply from no less than nine different sources within a radius of fifteen miles Each source was carefully investigated Histories of any illnesses in the various families and former tenants were carefully considered Premises and methods of handling milk were inspected Several specimens of blood and well-water were procured and examined Results were negative in all but one instance

George C occupying since April 1, 1907, a rented farm ten miles distant from this city, was supplying eighty quarts of milk a day to the middleman The cow stables were in poor condition The outhouse and sink drain were within a short distance of the well Well-water, without previous boiling was used to wash the milk cans No means were at hand to sterilize milk receptacles Those milking the cows and handling the milk used no special precautions regarding personal cleanliness

Mr C's family consisted of himself, his mother, a younger sister and two children—a boy of 4 years and a girl of 3 Another sister had been visiting there for a month Mr C's brother, together with the latter's wife and her mother, from Massachusetts, had visited there early in the season. Three farm hands had been employed there Two boys from Bridgeport had boarded there during July and August The 4-year-old boy, George Jr, was recovering from a recent illness A near-by physician had seen him once He had not examined the boy, no diagnosis was made and, his services being unsatisfactory, a physician was called from a neighboring town The father stated that the last-named physician pronounced the case one of typhoid fever

The various members of the family and former employés were questioned carefully regarding previous illnesses No history of typhoid fever or any condition resembling it could be determined Specimens of blood were taken from each member of the family and the former employés referred to, with one exception, and were examined by a local bacteriologist of recognized ability

The Widal test was positive in the case of Mr C's mother, the 4-year-old boy and the 3-year-old girl, the latter ailing at the time but not confined to bed A specimen of well-water showed the presence of colon bacilli

The two boys living in Bridgeport, who had boarded at the C farm during July and August, were next sought The younger of the two Charles S, one of a family of six, gave a negative Widal test, as did also the other five members of his family The other boy, James B, aged 14, gave a most positive Widal reaction Repeated examinations of his blood were made with uniform results Through the cooperation of the health officer of Enfield, Mass specimens of blood were obtained from Mr C's brother the latter's wife and her mother, and in the case of Mr C's brother the Widal was positive

Here, then, were no less than five persons who had been members of the C family and had visited or lived varying lengths of time on the farm, whose blood responded in a positive manner to the Widal test, and some of whom were possibly excreting typhoid bacilli in both the feces and urine

Those coming in direct contact with the milk were Mr C, his mother and the two boys from Bridgeport. They milked the cows, stirred the milk with a stick, and drank the milk from a cup, repeatedly dipped into the cans without intermediate cleansing Much earlier in the season the three farm hands referred to had done the milking Mr C's brother from Massachusetts and the two children at the farm had not handled the milk in any way

Had Mrs C, the mother, a woman of 68 years, at some remote period, suffered from typhoid fever and become a common carrier, awaiting an opportunity such as is afforded by the handling of milk to disseminate the germs of the disease? An investigation of her previous environment was made She had lived and acted as cook and housekeeper in the following named places a dentist's family in a neighboring town in this state, the home of a relative in Smiths, Mass., a private family in North Adams, Mass., a normal school in North Adams, Mass., a small hotel in Whitingham, Vt Replies to letters of inquiry stated that previous to during and subsequent to her stay at these places no cases of ty

possibly syphilitic in nature The peculiar hesitating springy gait, the throwing forward of the body with each step, the increase in the reflex arc and a marked adductor reflex, are however characteristic and peculiar to this type of paralysis

Prognosis—The degree of paralysis that is produced by the original attack remains permanent for the rest of their lives In a very small percentage of cases some improvement occurs in the gait after a few months or years, but the people are very definite in their statement that complete recovery is impossible The first attack produces the degree of paralysis shown in the gait by Plate 1, figs 1 and 2 Two or more attacks cause an extension of the injury to the cord and produce the gait shown in Plate 1, figs 3 and 4

Prevention of the disease—In 1907 the late Maharajah of Rewah attempted to prevent this disease in his State He issued an order dated the 29th November, 1907, in Hindi and it was read out to me by the Home Member The gist of the order was as follows —The paralysis chiefly affected the labouring classes, more particularly those of small caste and especially those who were given their wages in food (harwars) It was due to the eating of *kesari dâl* there spoken of as *butturah*, which was cheap in famine times He forbade the cultivation of this vetch, and placed import and export duties on the grain As the vetch was the staple food of the population, it was impossible to prevent its cultivation in out-lying villages In a year or so the order was forgotten, and now the *dâl* is cultivated without any restraint The preventive measures should consist in —

(1) The abolition of the harwar system, because in times of famine the bondmen are compelled to subsist on a diet composed entirely of *kesari dâl*

(2) To decrease the amount of *kesari dâl* consumed by the population by instituting famine reliefs during the years of a bad monsoon, as well as controlling the price of wheat, rice, and *dâl*, so that the poor can afford to buy these articles of food

(3) To increase the popular knowledge regarding the toxicity of this grain (*a*) The poison is water soluble so that soaking the grain for twenty-four hours in three changes of water removes the poison, and the grain can be used for making *dâl* or *puris* (*b*) The small grained *kesari* is less toxic than the large grained Bhagalpur *dâl*, so that every effort should be made to grow a sufficient quantity of the indigenous grain to meet local requirements (*c*) During the hot damp months of July and August, the grain should be stored in a dry place to prevent germination

(4) By improvements in the agricultural methods now employed The system of cultivation differs considerably in North and South Rewah In the North, the inhabitants largely rely on the bund system, *i c*, an embankment 4—5 feet high is thrown up to enclose a square area in order to catch the monsoon rain When water is required for the fields, the embankment is cut and the water allowed to run into the field If the monsoon fails, no water is available and the crops fail The people are then compelled to live on *kesari dâl* and hence lathyrism is very common in North Rewah In the South, the Gonds do all their cultivation by forest clearing, and irrigation from streams, with the result that lathyrism is rare in this portion of the State, as the crops of rice, wheat, etc, rarely fail The State is rich in mineral wealth, if this source of revenue was allowed to be opened up, it would afford an occupation which is independent of rainfall, and so largely prevent lathyrism in North Rewah

This research has been a most fascinating one from every point of view An investigation carried out amongst a poor illiterate population is impossible without a good command of their language The backwardness of this state was well exemplified by the antique high sprung barouche with its two horses, accompanied by a bevy of four red-coated brass belted attendants who drove me back to the station The statistical enquiry made clear the relationship during times of famine between an exclusive *kesari dâl* diet and the harwar system whilst it demanded an explanation for the high incidence of the disease during the month of July, the suddenness of the onset, and the peculiar distribution of the cord lesions The water soluble nature of the toxin is a most satisfactory result from the point of view of the prevention of the disease The surmounting of difficulties in any problem makes the solution more precious than those that are easily won For months Dr Sudhamoy Ghose, M SC, laboriously worked to obtain a sufficient quantity of the alkaloid that Stockman considered to be the toxin in *kesari dâl* Whilst working on the nature of Shiga toxin, Major Boyd was able to isolate an amine for me similar to histamine in its effect on isolated guinea-pig's uterus Since then Dr Chatterji has been able to isolate a similar amine from a broth culture of the cholera vibrio This amine also causes a very marked contraction of uterine muscle The production of an amine (Hordenine) during the germination of barley, at once suggested itself as a possibility in the case of *kesari dâl* and lathyrism, and I have given the evidences in favour of this view The isolation of the toxic amine from the other non-toxic amines in the grain still requires a good deal of labour before the problem can be solved In India one publishes results and waits patiently for years to see them carried out into practice Ultimately there will be the satisfaction of knowing that the work has been the means of saving many of these poor oppressed people from a life-long paralysis Even if only the harwar system can be abolished, it alone will do great deal towards the prevention of this paralysis.

he had "lost his left leg and was standing on one foot." Once after his admission to the hospital he was examined directly after an attack, and no sensory loss could be objectively determined. Consciousness was nearly always completely retained, and although the patient felt nervous and badly, he could usually continue with what he was doing. During July, 1900, he had three very severe fits with loss of consciousness, and while under observation in 1906 he had three similar, though less violent, attacks. Hence, up to the time of his first operation, November 22, 1906, he had lost consciousness six times only, whereas during the ten years since the onset there had been several hundred minor seizures without loss of consciousness.

Though nearly always in the leg, the initial sensory discharge began elsewhere on several occasions—for instance in the left groin, or on the thorax just below the left scapula, or in the shoulder. The seizure was not uncommonly followed by profuse sweating of the leg and foot.

The patient had been subject to headaches from childhood, but they became more severe after the onset of these attacks. He suffered intensely from them for a period of three months early in the year 1903, when they showed marked periodicity, beginning about 3 o'clock in the early morning and lasting until 11. The pain, which was severe enough to require morphin, seemed to pass from one temple to the other, it was associated at first with a ringing noise. After their daily recurrence for three months the headaches suddenly disappeared, and since then he had had no pain to speak of—that is, since May, 1903.

This period of intense headache was ushered in by definite ocular symptoms—namely, by momentary attacks of blindness followed by diplopia for two or three days. At this time his vision failed so rapidly that in three or four months he could no longer read ordinary printing. He said there had been very little change in his sight since then, although it might have become gradually worse. He had vomited on a few occasions only, usually during an attack.

His seizures had continued over a considerable period before there was any permanent muscular weakness. In the early part of 1903, at the time of his intense headaches and loss of visual acuity, there seems to have been a period of disability of the left arm. This came on gradually, lasted for five or six months and then disappeared. Shortly after this, in July, 1903, the left leg appears to have become permanently weak, and he has walked with a slight limp ever since. When the patient first came to the dispensary in November, 1905, he complained chiefly of loss of vision, weakness of the left leg and general nervousness, and said very little of his attacks. It was only after we had seen him for some time that he began to complain of them. He was thoroughly examined on numerous occasions, and the objective findings remained practically constant during the year he was under observation. A brief summary of these examinations is as follows:

Examination.—The patient was an intelligent man and gave a remarkably clear, detailed and consistent description of his seizure. Dr. James Bordley, July, 1906, reported that there was atrophy of both optic nerves, due, he believed, to preceding choked discs. The vision was R. 7/20, L. 20/20, and there was some constriction of the visual fields, particularly for colors. The pupils were normal in size and in their reaction to light and accomodation. There was no abnormality noted in the function of the other cerebral nerves. The movements of the arms were free, and the muscular strength was practically equal. The patient walked with a distinctly hemiplegic limp on the left side, and there was a slight but definite weakness in the dorsal flexion of the left ankle, and possibly some in the flexion of the knee and hip. The left leg was appreciably smaller than the right. The deep reflexes in the arms and right leg were normal; they were exaggerated in the left leg, where a patellar clonus always, and an ankle clonus usually, could be obtained. Plantar stimulation on the left side usually led to dorsal flexion of the great toe; on the right side no response could be obtained.

Sensation seemed to be normal over the left arm and hand. It was tested repeatedly and carefully in all its qualities, particularly in regard to muscular sense and the power of recognizing objects placed in the hand. Letters cut from wood were read accurately when placed in this hand. The sensitivity of the leg and foot was tested with equal detail, without discoverable abnormality. The power of localization was usually excellent, but at times there appeared to be some slight defect, this was too inconstant, however, to be recorded. In testing the muscular sense a lever was attached to each great toe, so that very delicate movements of the joints could be made, changes of position were recognized as well on the left as on the right side. Various weights were placed on the levers and these were also equally well appreciated on the two sides. Different textures, as rubber, cloth, wood etc., were recognized by passing his left foot over them. Objects, however, such as a nailbrush, book, etc., were not well recognized by either foot. The patient was allowed to feel raised wooden letters about 10 cm. in length, by passing the foot over them. This test was indefinite, although the answers given were more correct when using the left foot, he did, in fact, recognize several letters so placed.

Diagnosis.—It was evident that the patient was suffering from an organic lesion situated in the upper part of the Rolandic region, involving the cortex itself or lying just below it. The fact that the seizures were so largely sensory in character pointed to the post-central convolution as their place of origin, but as definite, though slight, paralysis of the left leg occurred, we were led to the conclusion either that the pyramidal fibers coming from the leg areas were also involved in the process, or else that it had implicated the anterior central convolution. The condition found in the eyegrounds, taken with the history, was sufficient to indicate the presence of a cerebral tumor, but inasmuch as the patient had had none of the general pressure symptoms of a brain tumor for three years and as there had been no increase of the paralysis during that time, we concluded that the growth must have become quiescent. As to its character there was very little data on which to base a conclusion. Syphilis could be excluded but the family history and the general appearance of the patient himself suggested the possibility of a dormant tuberculous process, and this was the tentative diagnosis.

First Operation.—The surgical exposure of the area which we believed to be involved is difficult and dangerous. This was explained to the patient but as he had come to dread his attacks so greatly he was willing to take any risk and begged for the operation. After consultation with Dr. Cushing this was decided on, and the first operation was performed November 22, 1906. The interesting surgical experiences I shall not dwell on as Dr. Cushing will deal with them. The leg area of the central convolutions on the right side was exposed and stimulated, but nothing abnormal was apparent on the surface.

After this series of operations the attacks subsided for about eighteen days when they again recurred. They were at first slight but through January, 1907, they became more and more severe consciousness being lost in a number of them. After one particularly severe attack on February 7 the left arm became helpless and a slight weakness appeared in the left side of the face. A detailed examination a few days later revealed the following positive findings:

Second Examination.—There was a slight left-sided facial paresis, marked weakness of the movements about the left shoulder, nearly complete paralysis of the movements of the left elbow, practically complete paralysis of the movements of the left wrist and hand. The left leg was in the same condition as before the operation. The deep reflexes were active and about equal in both arms; they were, however, exaggerated in the left leg. Plantar stimulation of the left side gave as before, dorsal flexion. No abnormality of sensation could be determined on the face; touch, pain and temperature were as well perceived over the left arm and hand as over the right. Muscular sense or more properly the sense of position, was definitely affected in the left hand and wrist. The power of localization on the dorsum of the left hand was somewhat affected, this was tested in considerable detail in the endeavor to confirm the interesting findings of Russell and Horsley, but the errors showed no constancy. Large objects placed in the left hand,

It appears however to have a selective action on the walls of the capillaries and arterioles from the diffuse hæmorrhages it produces, but this point is under further investigation

After injection emetine can be detected in the stomach and increases the automatic movement of this organ and of the intestines If large doses are injected into animals, the whole of the mucous membrane of the intestine becomes inflamed and covered with a muco-purulent discharge, and patches of hæmorrhage and even ulceration may occur These symptoms all point to its excretion by the mucous membrane of the alimentary tract Hæmorrhages occur in the lymphatic glands, spleen and kidneys Peripheral neuritis is also produced as first shown by Dale The circulation is markedly depressed as intravenous injections cause weakening of the heart and a fall of blood-pressure, by its direct effect on cardiac muscles Death may result from auricular and ventricular fibrillation (Charts Nos V & VI) When given subcutaneously and orally these effects are not so quickly brought into evidence Respiration is certainly depressed by even small doses and the secretion of bronchial mucus is increased In large doses there is often pulmonary congestion or even pneumonic consolidation

EMETINE IN AMŒBIASIS

Amœbic dysentery—In 1891 in a paper entitled "The rational treatment of acute dysentery" Tull Walsh gave an account of the good results he obtained with daily doses of one grain of emetine by the mouth It was not however until 1912, when Vedder published his results showing the high amœbæcidal action of this alkaloid, that attention was paid to the action of emetine Rogers, in view of Vedder's work, started hypodermic injections of the drug and found it to be very efficacious Carter tried it in Bombay on a very large scale and proved that whilst it was a specific for amœbic dysentery, it had little or no effect on the bacillary form In early cases, most of the amœbæ both pathogenic and harmless disappear from the stools after administration of a few grains But after daily injections of one grain for a week, there is a great tendency to relapse Very small doses such as ¼ gr are harmful, for although they apparently relieve the symptoms they really do not destroy all the amœbæ but make them resistant to emetine Such cases pass amœbic cysts in their stools and act as carriers It is however necessary to give daily injections of one grain for 12 days, and in more resistant cases 15 grains can be given provided no untoward symptoms appear Some clinicians recommend ½ gr by the mouth in the form of keratine coated pills in addition to the hypodermic dose making a total of 18 grains in 12 days but as a rule this method has no special advantage

Relapses and their prevention—It can be imagined what a difficult task it would be to completely rid the intestines of *E histolytica* Still it has been found possible to cure a large percentage of cases by a course of emetine The term "cure" in cases of dysentery has not as yet been clearly defined Some observers take it to mean freedom from all symptoms and absence of amœbæ in the stools for at least six months from the day of cessation of treatment It has been found that if cases be treated for less than nine days, relapses are almost certain to occur Carter held that in acute cases of dysentery, injection of emetine should be supplemented by ipecacuanha powder by the mouth He believes that it permeates the contents of the guts and reinforces the action of emetine on the amœbæ embedded in the intestinal wall Further experience has however proved that simultaneous administration of ipecacuanha root by the mouth does not at any rate diminish the number of relapses, though its subsequent administration may do so To effect a permanent cure stools should be examined for amœbæ and cysts once a month, care being taken to administer a purgative previously If these are discovered the treatment should be repeated In latent forms of dysentery when the infection is deep seated, examination of stools may not help A differential leucocyte count, showing an increase of large mononuclears, without a distinct evidence of malarial infection, would be strongly in favour of amœbiasis

Amœbic hepatitis and liver abscess—In hepatitis of amœbic origin, which is commonly met with in this country, emetine acts in a most marvellous manner It undoubtedly prevents its going on to the stage of abscess formation The same procedure as regards dosage and period during which it is administered is adopted as in the case of amœbic dysentery After the formation of an abscess it is necessary to aspirate the pus with a large syringe and inject emetine hypodermically till 7—12 grains have been given in all Open operation with all its dangers is thus avoided and the prognosis is very much better Cases of small multiple abscess yield to it and clear up quickly The most important point in the treatment of hepatitis is a correct diagnosis We have often come across cases of chronic malarial fever drugged with large doses of emetine for long periods, and the reverse is also true for genuine cases of hepatitis and liver abscess who have been drenched with heroic doses of quinine Both emetine and quinine are specific remedies for amœbiasis and malaria respectively, and if these diseases do not react to treatment the diagnosis is at fault

In this connection it may be pointed out that there is a general idea among medical practitioners in this country that emetine produces an increased secretion of bile In our experiments we have so far found no evidence

stages of an intracranial operation, namely, when the scalp and cranium are opened and when the wound is closed

Although from these things we had a right to conclude that the cortex could be manipulated without pain, it was a startling thing to see the postcentral convolution—that part of the brain which is now generally believed to be particularly concerned in the perception of sensory impressions—painlessly incised and a tumor enucleated from its depth This was done, too, without causing the patient the least sensation of any description, though it required the cutting across and the breaking of many fibers, as well as the irritation of the gray matter One slight seizure occurred while the cortex was being palpated but before it was cut.

It is probable that the operative stimulus was inadequate and that had we faradized the cortex we would have obtained some most interesting data That the manipulations were accompanied and followed by no shock or observable phenomena of any kind is also of interest If it is possible, as it seems to be, that a similar procedure can be carried out in other cases it will open up a field of investigation that has very wide limits, and it is largely for this reason that we desire to record this case at this time

SURGICAL REPORT BY DR CUSHING

Well aware of the inaccessibility of the mesial edge of the paracentral convolutions, underlying as they do the lateral expansions of the longitudinal sinus (*Lacunæ laterales*), Dr Thomas did not feel that he could strongly advise operation, nor did I undertake it without considerable misgivings Had we been aware of the difficulties which would be experienced in giving anesthesia to the patient, and could we have foretold the vicissitudes that we were to meet, we would have had additional reasons for hesitation It will be seen that five craniotomies were necessary before the end of his surgical history, and it may be well to take these up seriatim with a brief description of each operative stage and its various complications

OPERATIVE HISTORY

First Operation—Nov 22, 1906 (10 a m) Under ether anesthesia a large bone flap, whose upper margin nearly reached the sagittal suture, was reflected so as to bring the sulcus centralis (Rolandi) in the center of the exposed field Although as is usual in these cases, the services of an expert professional anesthetist were secured the patient took the anesthetic execrably, breathing badly throughout its administration The resultant cyanosis was so great that in spite of the tourniquet there was considerable venous oozing not only from the scalp but from the diploë as well Bleeding was particularly free from the emissary vessels between dura and bone, especially from those at the edge of the parasinoidal sinuses which were exposed owing to the mistake in judgment of placing the osteoplastic flap so high The accompanying sketch (Fig 1) shows roughly its situation

Although I am loath to believe that a two-stage operation is desirable as a routine measure in operations for brain tumors it seemed unwise in this particular instance to proceed owing to the considerable loss of blood and resultant fall in blood pressure The opening of the dura consequently was deferred for a second sitting the bone flap was replaced and the scalp wound closed without drainage I confess to having felt much hesitation in thus closing the wound, inasmuch as there was some uncontrolled oozing from the dura at the superior edge of its exposed surface where owing to the cyanosis and passive congestion bleeding slowly continued at a few points Nevertheless, it was hoped that on recovery from the anesthetic, with an improved circulatory condition this venous oozing would cease and that the pressure of the bone flap against the membrane would meanwhile suffice to occlude the bleeding points

Realizing, however, that the oozing might continue, a blood pressure apparatus was in constant use during the remainder of the day and night so that the systolic pressure as well as the pulse rate was frequently recorded and charted Four hours after the operation the patient was fully conscious, conversing, and free from any intracranial discomforts

He passed a comfortable night, sleeping possibly more than might have been expected, but not until the early morning hours was there evidence of anything unusual in his condition At 5 a m his pulse, which had been about normal, dropped to the 60s, two hours later it registered as low as 54 He seemed unduly drowsy

When I saw him at 9 a m it was difficult to arouse him, though when aroused he said that he felt comfortable and free from pain His pulse continued slow, the blood pressure had begun to rise, and there were present, even to the palpating finger, distinct rhythmic waves, not only in cardiac tension, but in pulse rate as well, these waves furthermore were accompanied by perceptible alterations in the depth of his respiration An ophthalmoscopic examination, confirmed later by Dr Bordley, showed a high grade of choked disc, the edema being so great, even on top of the atrophic nerve heads, that it measured four diopters (it is to be remembered that before the operation there was no retinal edema whatsoever) Dr Eyester, whose recent observations have thrown light on the physiology of Cheyne Stokes respiration,[4] made at this same time some records with the Erlanger sphygmomanometer, which showed more clearly than could otherwise have been observed the characteristic rhythmicity of pulse rate, blood pressure and respiration, which occurs when intracranial pressure is approaching Kocher's third stage of compression (Höhestadium des Hirndruckes)

On the presumption that an extradural clot had formed, preparations were made to partially reopen the wound This measure, however, was unavoidably delayed until three hours later—*namely, eight hours after the first onset of symptoms*

Second Operation—Nov 23, 1906, (12 noon) The patient by this time had become so profoundly unconscious that he failed to respond even to painful stimuli He was taken to the operating room, the dressing was removed, the sutures holding the anterior edge of the incision were divided No sooner was this done than the bone flap dislocated itself outward, separating the freshly uniting skin incision, and a large, black extradural clot, fully 3 cm in thickness, began to extrude itself from the wound The patient immediately regained consciousness, opened his eyes, looked up and spoke to the operator The blood pressure soon fell to its normal level, the vagus pulse was replaced by one of normal character and rate, and the rhythmicity of respiration disappeared, all with the definiteness of a laboratory experiment when a compressed brain has been relieved from the pressure exerted against it The clot was scraped away, the partially reopened wound was filled with iodoform gauze, the patient was returned to his bed He had no further pressure symptoms In a few hours the edema had begun to leave the retinæ, and by the second day afterward the atrophic discs were again as clear as before

The incident emphasizes the necessity, whenever there is a chance of such an extravasation after operation, of following the patient's vascular and respiratory condition with the closest scrutiny

Third Operation—Nov 27, 1906 Under general narcosis the second stage of the exploration was undertaken Chloroform was employed but the drug was taken just as badly as ether had been on the previous occasion The tourniquet was again applied the bone flap reelevated, and the clotted residue of the extravasated blood was scraped away from the bone and dura The upper edge of the cranial opening was extended by rongeurs across the median line (Fig 1) in order to expose completely the dura covering the mesial edge of the

4 Blood Pressure Changes in Cheyne Stokes Respiration Johns Hopkins Hosp Bull 1906 xvii 126 also Clinical and Experimental Observations on Cheyne-Stokes Respiration Jour of Exper Med Oct 12 1906 viii 565

THE THERAPEUTICS OF EMETINE

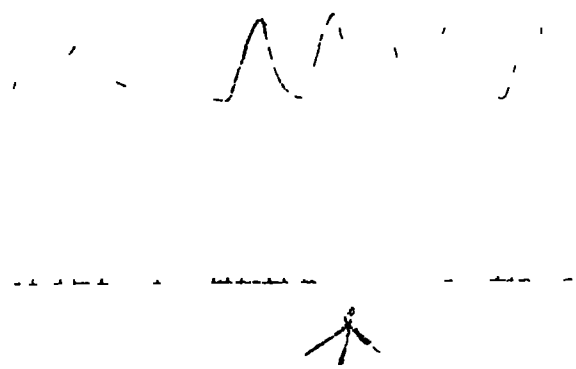
By R N CHOPRA, MA, MD (Cantab),
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and
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CHART I



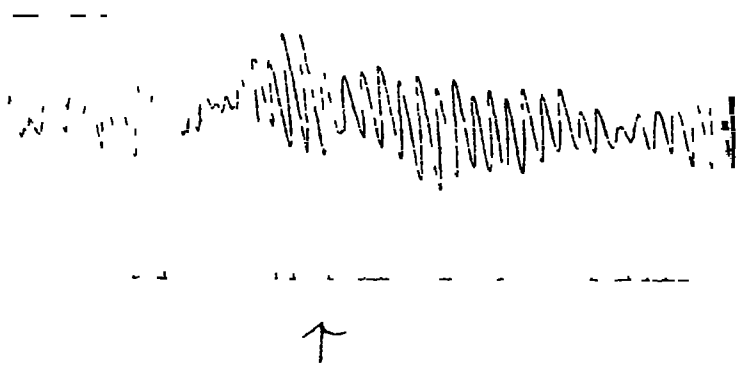
Emetine hydrochloride on pregnant uterus of guinea pig Dilution 1 in 250,000 Bath—37 5°C Result—marked relaxation ↑ indicates the point where emetine was given Time—6 seconds

CHART II



Emetine hydrochloride on virgin uterus of white rat Dilution— 1 in 250,000 Bath 37 5 C Result—very little effect ↑ indicates the point where emetine was given Time—6 seconds

CHART III



Emetine hydrochloride on intestine of rabbit Dilution—1 in 300,000 Bath—37 5°C. Result—slight increase in tone and contractions more regular ↑ indicates the point where emetine was given Time—6 seconds.

quency and severity. During January he had a serious attack of bronchial pneumonia which had many features suggestive of pulmonary tuberculosis, but though the sputum was repeatedly examined no tubercle bacilli were found. It was thought during this period that his intracranial symptoms might possibly have been due to a cerebral tubercle—a form of growth which could easily have explained the peculiar subsidence of the intracranial symptoms following their onset in 1896.

During this illness, early in the year, he had a number—occasionally more than one a day—of particularly severe epileptiform attacks involving the entire body and always with loss of consciousness. They were, however, invariably preceded by the same sensory aura which characterized his milder seizures. In addition to these severe fits there were a number of mild ones in which consciousness was retained. These minor attacks were usually accompanied by profuse sweating of the left leg and foot chiefly below the knee—so profuse in fact as to soak the bedclothes. The sensory aura which preceded them altered its position from time to time, occasionally starting as a "nervous sensation" in the abdomen at other times in the shoulder or again shifting back to its former situation in the leg.

In February there appeared a progressing weakness of the left side of the body, and after one particularly severe seizure, February 7, he became almost completely hemiplegic so that he was no longer able to sit up. From this time on until his later operations he was confined to his bed.

The notes in regard to his physical state at this period are included in Dr. Thomas' report. His mental condition seemed normal. He would lie quiet for hours at a time with uncomplaining patience which might have been mistaken for lethargy had he not responded intelligently and promptly when addressed. His seeming apathy, however, may possibly have been a symptom of his intracranial lesion. He complained of no particular physical discomforts, indeed after recovering from his bronchopneumonia he gained markedly in weight (30 pounds) and strength in spite of the frequent epileptic seizures and his hemiparesis. His constant request was that something further be attempted to put a stop to his attacks. Although the outlook from a surgical point of view promised so little, the fits were becoming so severe and so frequent that it seemed unfair to deny the poor fellow the more extensive exploration which he so earnestly solicited.

Fourth Operation.—March 21, 1907. After shaving and cleaning the head on the operating table as is our custom, chloroform was administered and the original bone flap was turned down in the scar of the previous operations. The patient again took the anesthetic in the worst possible fashion. There was extreme cyanosis and as at the first operation a great deal of bleeding was encountered near the median line. On exposing the dura the earlier incision of the membrane was found to have healed perfectly, there being no trace of the wound other than that made by the black points of the iron-dyed fine silk sutures that had been used in closing it. The dura was everywhere smooth and showed no sign of being more adherent to the skull than usual—this in spite of the extradural extravasation which had occurred before the first closure.

Owing either to the patient's cyanosis or to some alteration in intracranial conditions, the dura was found at this sitting to be under considerable tension. In view of this and also in consequence of the considerable fall in blood-pressure which had taken place, it was deemed wise as before to postpone further measures for a second sitting. Bleeding as at the first operation was so free from the region of the Pacchionian granulations as well as from the edges of the freshly incised skull (for the old cranial incisions had become largely filled in with vascular neobone), that a layer of gauze was placed over the dura and on this the osteoplastic flap was closed in the hope of lessening the chance formation of another extradural clot. The scalp was then sutured with a continuous Pagenstecher suture, a protective drain being left between the edges to carry into the dressings such blood as might extravasate.

The wound was dressed on the second day and the sutures all removed. There was no particular uplift to the bone flap and consequently it was presumed that there had been no extradural extravasation. Apprehensive of the effects of a second anesthetization not only from the knowledge of the difficulties of its administration but also because of the pneumonia which had followed the previous second stage operation, it was determined to attempt an exposure of the brain at this time without narcosis.

Fifth Operation.—March 26, 1907. He had been given as on all previous occasions ¼ of a grain of morphin and 1/100 of atropin hypodermically. When the bone flap for this fifth time was again reflected, contrary to our expectations a shallow extradural clot possibly 1½ cm. in thickness was disclosed lying between the bone and the gauze layer. Gauze

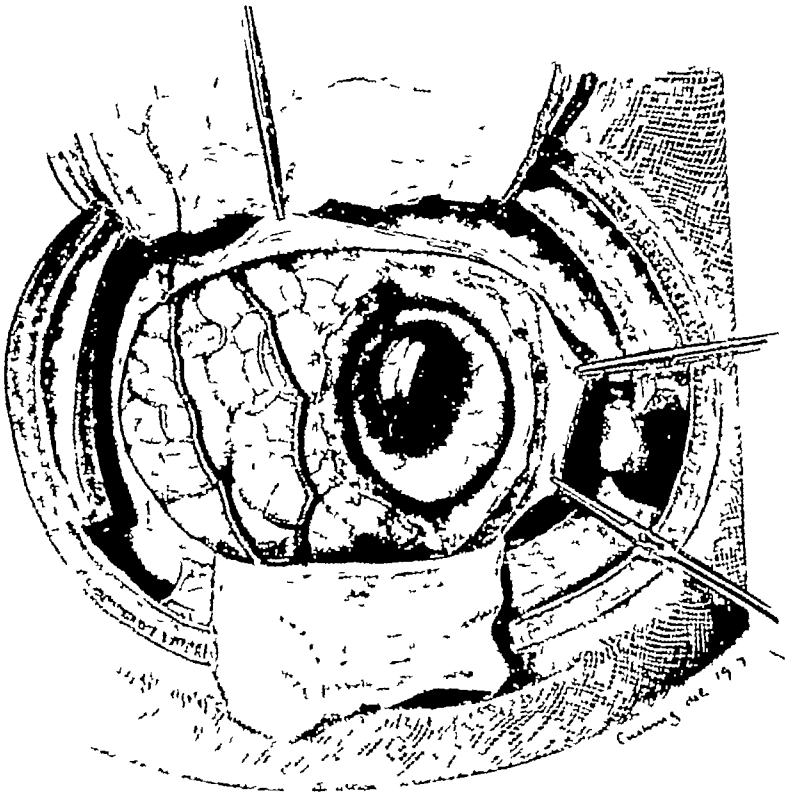


Fig. 3.—Drawing elaborated from a careful sketch made by Mr. Brödel at the time of operation, showing external cyst partially enucleated and before its rupture. Compare with Figure 2. (Three-fourths actual size.)

and clot were removed together from the dura. In the absence of the ether cyanosis there was but slight bleeding, and this occurred from one or two points only on the convex side of the freshly opened scalp wound. The tourniquet was not used on this occasion.

The dura was incised some distance outside of the omega-shaped incision previously made (Fig. 2), but in line concentric with it, that is, over a part of the cortex where we were certain not to find adhesions. On reflecting this dural flap it was found to our gratification, that no cortico-dural adhesions had formed in consequence of the old operation except at one point where under the old incision there were two or three fine strands which were easily broken down with the blunt end of the scalpel. Except for the row of delicate black sutures completely covered by endothelium, the under surface of the dura was absolutely smooth and of normal appearance.

whelming It is a protoplasmic poison, and like quinine and cocaine has a selective action on certain forms of protoplasm It should therefore be used very judiciously and only those cases should have it where the diagnosis is certain, otherwise it may do more harm than good With some people it is a fad to give emetine in any form of intestinal disturbance associated with a mucous diarrhœa and not amenable to ordinary treatment A good many cases of dysentery especially in Calcutta are of the bacillary type and yet many of these get emetine It may be argued that these cases are benefited by such treatment, but it must be remembered that such factors as rest dieting, and washing out of the bowel with saline which form a part of emetine treatment also contributed a great deal towards cure

Another condition in which emetine is used is hæmoptysis though neither clinical experience, nor its pharmacological action justify its use in this condition As a matter of fact it actually causes dilatation of pulmonary vessels and congestion and in some of our experiments after six injections of ordinary therapeutic doses in animals, small petechial hæmorrhages were noticed in the lungs It is therefore strongly contra-indicated in pulmonary hæmorrhage

Method of Administration—Emetine is rarely given intravenously owing to its depressing effect on cardiac muscle If it has to be given intravenously as in fulminating and moribund cases it should be well diluted and injected slowly The subcutaneous and intramuscular routes are usually employed Some persons show an idiosyncrasy to emetine such as considerable pain, stiffness and redness of the skin, and even small hæmorrhages in spite of all precautions as regards asepsis while others show no symptoms under similar conditions Emetine is not often given by the mouth, because of the vomiting which it produces, but provided it is retained, its action is just as efficient as when given subcutaneously Keratine or salol coated pills are best, and should be given at bed-time, the same routine being followed as in the case of the old ipecacuanha treatment Some patients tolerate it quite well, others get sick for the first two or three nights and bear it well afterwards, while yet another group develop sickness every time they take it With such individuals it should be given hypodermically The best plan is to give injections in acute cases who have to be kept in bed, while for chronic cases who are up and about the oral method should be preferred Keratine coated pills are the best and the fact that they are rapidly absorbed has been proved by experience

Emetine-Bismuth-Iodide—Many years ago Tull Walsh conceived the idea of combining emetine with mercury and iodine, and introduced emetine-mercury-iodide into therapeutics, DuMez combined it with bismuth and tried emetine-bismuth-iodide with the idea that owing to its insolubility, the emetic effect might be reduced and the compound be suitable for administration by the mouth This hope has not been fully realised For although this substance is insoluble in water acidulated with HCl, it unfortunately becomes dissolved to a greater or lesser extent in the stomach and more slowly causes nausea and emesis Keratine coated tabloids are sometimes uncertain, salol varnished pills are better In the presence of the alkaline contents of the duodenum these pills are slowly split up and emetine set free It should be remembered that the double salt contains about 29 to 35 per cent of emetine (it is not a very definite compound) and that three times the ordinary dose of emetine has to be given to get the desired therapeutic effect Dobell gives one grain three times a day in cachet He found that vomiting if it occurred at all generally did not come on till some time after ingestion, showing that this probably was not due to a direct effect of the drug on the stomach but after reabsorption from the intestine It is best given after a meal, so that it is amply diluted by the time it reaches the alkaline contents of the small intestine The process of liberation of emetine and its absorption is slow and spread over a large surface of the intestinal wall and given in this way it is well tolerated Even if there be any nausea or vomiting at the commencement it is advisable to persist in giving the drug as tolerance is generally established in 2 to 3 days Vomiting may be prevented by giving 10 to 15 minims of tincture of opium It was hoped by its originator that combination of emetine with such substances as bismuth and iodine would fortify its amœbæcidal action This has been borne out by the experience of Dobell and others It is further claimed to have the advantage of being less depressant and the chances of an irritable heart are considerably reduced In chronic cases of dysentery where emetine has failed emetine-bismuth-iodide possesses a distinct advantage, in fact it has a most remarkable action on *E histolytica*

A certain percentage of failure is however inevitable and cases have been recorded in whom as much as 200 grains has been given without eradicating the disease If therefore after completing a course of emetine, amœbæ are again found, it is no use pushing the drug further but all that is necessary is to repeat the previous course

Emetine Diarrhœa—Before emetine came into use, physicians used to give ipecacuanha powder till diarrhœa was produced and the motions became liquid and of a canary yellow colour The drug was then stopped, and when the stools regained their normal consistency, the patient was considered cured It is however not possible to say whether those were real cures inasmuch as *E histolytica* was

and brain, are difficulties to be met with in exposing this particular field The superior cerebral veins, especially the large anastomotic vessels which connect the Sylvian veins with the longitudinal sinus, pass upward, as they did in this case, often in the central or paracentral sulci As they near the upper edge of the hemisphere they leave their protected position and emerging from the subarachnoid spaces bridge across the open subdural space to enter the parasinoidal expansion of the sinus They consequently may be attached to the dura at a distance of a centimeter or two from the median line, and careless elevation of the membrane at this position may tear these vessels and lead to a free extravasation of blood which is difficult to control

It is noteworthy that in infants, as well as in most of the lower animals, Pacchionian granulations are not to be found—and this I believe is true also for adult anthropoid apes With the exception of the human adult, therefore, the anatomic conditions are such that the cerebral veins may be doubly ligated as they bridge across from cortex to sinus, so that the exposure of the mesial edge of the hemisphere is not difficult It is a different matter in the case of adult man

2 *Postoperative Extradural Extravasations*—This is a complication which must occur from time to time to every surgeon who operates frequently by the Wagner bone-flap method for intracranial conditions In my experience it has happened four or five times in approximately three hundred craniotomies for various conditions One of the cases (a successful tumor extirpation) resulted in a fatality, since the pressure from the clot was relieved too late for medullary recovery to take place The lesson was sufficient to teach the absolute necessity of the most careful postoperative observation, with a blood-pressure apparatus, of all patients after an osteoplastic operation The phenomena are so characteristic that they should never escape detection, and a slowed pulse or a rise in blood pressure should lead to the immediate removal of the dressing and examination of the flap to see whether it has become lifted by the intracranial pressure, without waiting for unconsciousness or respiratory changes such as occurred in this case

It is an accident which may occur even after a presumably dry closure, for the congestion which may accompany postoperative vomiting may raise the venous pressure so as to start up venous oozing from the vessels which were previously dry Furthermore inasmuch as the dura has already been separated from the bone during the operation and as there is a tendency with each inspiration for the freed membrane to be drawn away from the skull and thus for oozing to be encouraged, it is easily understood how venous bleeding under these circumstances can readily lead to an extravasation larger than that which follows the traumatic rupture of the meningeal artery In the latter case the adherent membrane must be slowly dissected away from the skull by the extravasating blood even though under arterial tension

It is perhaps a safe rule always to drain in these cases and this is best accomplished by puncturing the scalp a centimeter or two outside of the upper angle of the incision and by inserting protective wicks which lead to the trephine openings These wicks may be painlessly withdrawn after forty-eight hours It is a great temptation however to close without them and experience usually tells when it is possible to do so Possibly 50 per cent of osteoplastic resections can be safely closed without drainage

3 *The Absence of Adhesions*—It is unusual to have so conclusive a demonstration of the fact that after operative exposure of the brain there need be no subsequent formation of corticodural adhesions On a few occasions I have had postmortem evidence pointing in this direction These were cases in which a craniotomy with cortical stimulation had been performed and in which death had occurred some months later owing to a continuance of the primary trouble or had supervened in consequence of some intercurrent malady

The total absence of adhesions in these cases, even along the line of dural incision, I attribute to the extreme care with which the margins of the dural wound had been approximated at the close of the operation, It is true of dura as of peritoneum that, provided the edges of the membrane are carefully united, endothelial cells will shoot across the line of incision with great rapidity, in other words, adhesions will not form unless a raw surface has been left either on the side of dura or of pia-arachnoid, or unless there has been a mild grade of infection It is important to bear this in mind in operations conducted primarily for the purpose of freeing adhesions which have pre-existed It is generally believed that these procedures are futile owing to the almost certain reformation of adhesions, but this I take to be no more true of the endothelial-lined spaces of the meninges than of the corresponding spaces in other serous cavities

4 *Focal Epilepsy with Subcortical Tumors*—The position has been taken by Allen Starr that in all cases of focal epilepsy of obscure origin the intracranial conditions should be investigated, inasmuch as Jacksonian fits are often induced by a tumor even before any general pressure symptoms are present When such a lesion leads to irritative symptoms of this type it is usually accessible, being near the cortex and in the neighborhood of the Sulcus centralis (Rolandi)

We anticipated at the first exploration (Nov 27, 1906), that a cortical lesion at the upper end of the precentral gyrus would be disclosed One can not say even now that "motor-cortex" at the depth of the central fissure was not directly involved, and I know that Dr Thomas would have been glad, had I not thought it *inadvisable, to have determined this by cortical incision* at the time It was not, however, until the second exposure (March 26, 1907), which gave a wider view of the hemisphere, that the peculiar discoloration and broadening of the postcentral gyrus was evident—an appearance which led to the subcortical exploration being made behind the central fissure

The upper surface of the cyst was found about 1 cm below the crest of the broadened gyrus, approximately on a level with the motor centers for the arm Although the patient's invariable sensory aura is explained by this finding, it furnishes no explanation for its variable situation It is noteworthy that while the brain was being palpated in an effort to determine whether a growth could be thus detected, the gentle manipulation led to a slight focal attack, the twitching being limited to the contralateral shoulder and side The patient himself called attention to it, otherwise it would have escaped notice The subsequent cortical incision and extensive dissection led to no irritative symptoms either of a motor or sensory nature

5 *Cystic Degeneration of a Brain Tumor*—At the time of the operation, inasmuch as there were two separate though adjoining large cysts and a number (three or four) smaller ones which lay in the crevice between

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EXTRACTION OF THE LENS IN ITS CAPSULE

By F F STROTHER SMITH
MAJOR I M S
Allahabad

Now that Lieutenant-Colonel Henry Smith has left India it would be very interesting to know the results ophthalmic surgeons who practice extraction in the capsule are obtaining My excuse for writing this short paper is that I find a number of surgeons, especially those who have not seen Colonel Smith operate and who have only read his book on "Treatment of Cataract' have misinterpreted his technique I wish in this paper to try and correct a few important details

The following remark is a very common one by English and other surgeons visiting this country and seeing the Smith operation "If we had such perfect patients in England, Cataract Extraction would be very easy" I always point out that the fault as a rule lies with the surgeon in England and not with the patient. Previous to the operation the patient is too much meddled with After the usual dark-room examination the patient is put to bed, given a purge, the eye lashes and eye-brow shaved, an antiseptic dressing applied the night before operation A weak solution of cocaine is used for the operation and several drops are put in the eye at intervals of ten minutes before the operation The patient is then brought into the theatre and is naturally very nervous after all the unnecessary interference with his eye The Indian would not have been a perfect patient, if he had been dealt with as above, in fact being of a more excitable nature than our stolid Englishman he would perhaps have been a much more nervous patient By all means give the patient a purgative the night before preferably a five grain blue pill followed by a saline in the morning, but don't put him to bed to think over his fate on the morrow Allow him to go to bed in the ordinary manner Don't shave his eyebrows and lids, it is quite unnecessary, and don't put on an antiseptic dressing over night All this tends to make him nervous Don't apply a weak solution of cocaine Either use a five or six per cent solution, (previously Colonel Smith used a ten per cent, but it is not necessary so strong), and only apply a couple of drops ONCE, and then with a pair of scissors clip a few of the lashes of the top lid on the outer side to allow the knife to pass across without touching them Then wash the lids and brow, etc, with a swab dipped in Perchloride 1—2000 and place a sterilised towel round the scalp and when this is done insert the speculum and wash out the conjunctival sac and start the operation By this minimum of interference the patient is not made nervous before the operation Another point worth noting is not to talk to the patient while on the table Don't tell him to look this way or that way With your fixation forceps make him look in which ever direction you wish

The next point I wish to touch on is the *Incision*. Most surgeons hold the knife too near the blade and hold it much too tightly The knife should be held about the junction of the middle with the distal thirds of the handle and held loosely so that the surgeon may be able to feel that the point of the knife is in the anterior chamber and not splitting the corneal layers A point worth remembering is —Provided the incision is not made too short it is the depth of the incision that counts most in getting out a large swollen lens In large swollen lenses I always enter the point of the knife just behind the sclero-corneal margin and bring it out in the same horizontal plane on the other side The moment the point emerges, cutting is begun and with a good knife the incision should be complete when the knife has been pushed through to the heel As the knife is being pushed through, it should be gradually rolled on itself to an angle of 45 degrees during the incision so that when the incision is completed just inside the sclero-corneal margin the cutting surface of the knife is directed vertically upwards to the roof parallel with the optic nerve

During the final stage of the incision an accident is liable to happen Very often as the incision is being completed a portion of the iris prolapses behind the blade and causes the patient to wince When this happens don't quickly complete the incision Just stop cutting while your assistant holds back the brow with his thumb and lifts the lids on the speculum Then slowly complete the incision If this is not done and the incision is completed in a hurry the lens and some vitreous are liable to follow the knife out of the wound

In connection with the iridectomy the iris should be caught very lightly in the iris forceps, because if pinched tightly the patient will wince, owing to the fact that the iris is very richly supplied with nerves When cutting off the piece of iris don't quickly pull away your forceps and scissors, because if not cut completely through one is liable to tear away the whole iris I have seen this happen when the scissors were not very sharp

To open the dura and remove a cerebral growth without an anesthetic was an experience which, so far as we knew, was unique, and the principle may possibly prove to be applicable to other cases.[6]

I have always dreaded a second-stage operation in cases of brain tumor, although this method of procedure is advocated, as is well known, by the highest authorities. I believe that one reason why the complete operation at a single sitting has been found inadvisable in the hands of many, is the undue loss of blood which occurs during the process of forming an osteoplastic flap, or of otherwise entering the skull when rapid methods are followed and no tourniquet used. Painstaking hemostasis—one of the guiding principles of all surgical work in Dr. Halsted's clinic—should be observed in cranial as strictly as in other operations and the fact that postoperative shock is a complication which is almost never seen is doubtless attributable to this custom. Possibly owing to this I have not been impressed by the arguments in favor of a two-stage operation and it has been my custom to open the dura and if possible to remove the tumor at the first sitting—only twice in my ten cases of successful extirpation has a second-stage procedure been employed. Thus not only are the risks of a second anesthetization avoided, but also the period of anxiety for patient, friends and physician which is inevitable when the procedure is carried out in two sittings.

If it should prove to be possible, however, to carry out the second stage of an intracranial exploration without an anesthetic this would be a stronger argument for the two-stage procedure than the mere avoidance of shock. One paramount advantage of course, would lie in the absence of such complications from cyanosis as have been described in the case here reported.

It was truly remarkable in this patient to find that the extensive manipulations which were essential to the removal of the tumor could be carried out while the patient was perfectly conscious, was chatting and was taking a lively interest in the progress of the operation. The complete freedom from venous stasis was all the more apparent inasmuch as so much difficulty had been experienced during the four preceding sessions.

Since this original experience another opportunity has offered itself of conducting the second-stage of an extirpation operation in similar fashion without an anesthetic and although in this second patient, owing to the extraordinary size and deep situation of the tumor, a complete enucleation proved to be impossible the opening of the dura and partial extirpation of the growth showed the feasibility of procedure of this kind without anesthesia even in the case of a young child.

One thing I greatly regret not having done in the final operation (March 26, 1907) on the first patient namely to stimulate the exposed cortex while the patient—a particularly intelligent and interested subject—was conscious. The enucleation was carried out slowly and carefully sufficient time being taken to allow Mr. Brodel to make a sketch showing the partly exposed cyst and it would have taken but a few moments to have gone over the postcentral parts of the field with the electrode especially since our orientation was assured owing to the detailed faradization of the motor strip on Nov. 27, 1906. It is quite possible that stimulation particularly of the postcentral convolutions in a conscious patient, may throw light on the somewhat obscure localization of sensory function. This, however, can only be a conjecture, for it is notable that although the incision was made down to the tumor along the crest of the widened postcentral convolution—in other words, in the middle of the supposed sensory field—the patient experienced no subjective sensations whatever. It may, of course, be a different matter when this field is faradized.[7]

[EDITOR'S NOTE.—THIS ARTICLE WAS READ AND DISCUSSED IN A SYMPOSIUM. THE DISCUSSION WILL APPEAR LATER.]

6. In his Toronto address (The Technic of Operations on the Central Nervous System, Brit. Med. Jour., Aug. 25, 1906, 484) Sir Victor Horsley emphasized the fact that profound narcosis is unnecessary except at the early and late stages of an intracranial operation, and the same thing is true for most intra-abdominal operations. Little anesthetic is being needed while the viscera are being handled.

7. Once, more recently I have had the opportunity of making a single observation in this direction. In a simple case of subtemporal decompression for an unlocalizable tumor an emissary vessel from the meningeal was injured while rongeuring away the bone and as it was beyond the reach of a ligature the wound was temporarily packed. The dura, consequently was not opened until 48 hours later at which time no anesthesia was needed for the completion of the operation. After making the dural defect the exposed right temporal lobe was faradized. When the electrode was applied to certain areas of the superior temporal gyrus the patient said that he heard a ringing sound which was distinguishable from the buzz of the interruptor. The observation is suggestive though it would not be safe to draw too definite conclusions from it for the conditions were abnormal owing to tension and his mental processes were a little dull.

AMERICAN MINERAL WATERS,

IN THE LIGHT OF RECENT ANALYSES

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Bulletin 91 of the Bureau of Chemistry, United States Department of Agriculture, relates to a recent chemical investigation of American commercial mineral waters. The waters examined by the government chemists are all found in the markets of the country and are recommended to the public in virtue of certain valuable mineral ingredients they are stated to contain, or on the score of their purity and freedom from harmful substances. Included in the analyses are many of the best known springs of the United States some of which have long held a high place in the estimation of physicians. It is proper, therefore, that the results be given wide publicity and the essential facts reviewed.

Ranged in contrast with their own tables the bureau chemists present the analyses of the waters as hitherto advertised by the owners or managers of the springs, and upon which the medical men of the country have relied in judging as to their nature and value. Of the forty-two analyses, covering the waters of as many different springs, we find that twenty-one, or exactly one-half, agree essentially with those hitherto in use, ten show very considerable variations, but admit of fairly satisfactory adjustment. In four instances the owner's analyses were not obtainable while in the case of seven springs the differences are totally irreconcilable, in several instances entirely eliminating the spring from the class to which it had been assigned by the confiding collator of mineral water facts and figures. For purposes of critical comparison I converted the analyses of twenty of the most prominent and best-known waters in the Bureau of Chemistry list from parts per million to grains per United States gallon, to conform to the method of expression most common in this country. These analyses are ranged in parallel columns with those hitherto in vogue. For convenience the Bureau of Chemistry tables are set down under the head of "New Analysis," the advertised analyses are referred to as the "Old Analysis."

	M H D of comp'e-ment.	No of cases	Formol-gel reaction: No of cases in Agreement.	Formol-gel reaction: No of cases in Disagreement.	Percentage of agreement
Wassermann reaction—					
Positive	8	91	69	22	73·4
	5	76	53	23	69·8
	3	67	41	26	61·2
TOTAL		237	163	71	68·8
Negative	-	302	197	105	65·2
TOTAL		539	360	179	66·6

The percentage of agreement reached was only 66·6 and in those cases which deviated 8 m h d of complement only 73·4 per cent I came to the conclusion therefore that the test could not be considered sufficiently reliable to take the place of the Wassermann reaction

I have since studied the clinical histories, as far as syphilis is concerned, of 120 of the above cases and the results appear to be of sufficient interest to warrant the writing of this note Only those cases whose histories could be relied upon have been included in this series My results are given in the form of a second table in which the cases are divided according as they gave a positive or negative reaction to the two tests

	M H D of comple ment	No of cases	Clinical History: Agree ment.	Clinical History: Disagree ment.	Percent age of agree ment
Wassermann reaction—					
Positive	8	28	28		100·00
	5	19	19		100·00
	3	14	12	2	85·70
TOTAL		61	59	2	96·71
Negative		59	53	6	89·98
TOTAL		120	112	8	93·33
Formol gel reaction—					
Positive		71	47	24	66·20
Negative		49	30	19	61·20
TOTAL		120	77	43	64·16

Those giving a positive Wassermann are again sub-divided according to the M H D's of complement they are capable of deviating The clinical histories are shown separately against each test and are stated accordingly as they are in agreement or disagreement with the results of the test In the last column a percentage of agreement has been struck in each case

In the case of the Wassermann reaction the total percentage of agreement is 93·33 Only two out of 59 positive reactions gave a negative history and both of these could only deviate 3 M H D's of complement All the cases whose sera gave the stronger reactions also gave a positive history of the disease The percentage of agreement in the positive cases is thus 96·7

Six cases giving a negative Wassermann reaction had a positive history of syphilis I will refer to these cases in more detail later

The results with the Formol-gel test are not nearly so good In only 64·1 per cent of the cases does the test agree with the history of the case The results recorded for the positive and negative reactions separately show no improvement over the total The reliability of the test stands condemned therefore when it is compared with the history of the case as well as with the Wassermann reaction

The details of the cases whose history disagreed with the results of the Wassermann reaction are of some interest In the two cases which gave a weak positive reaction no sign of the disease and no history could be obtained after very thorough examination This does not absolutely negative the possibility of a previous infection Both of these cases were negative to the Formol-gel reaction

The six negative cases gave the following histories —Two suffered from parasyphilitic affections, in one the only evidence of syphilis was the presence of epitrochlear glands, a sign of doubtful value in a filarial district The remaining three cases were definitely diagnosed as being in one of the earlier stages of the disease

The Formol-gel test gave negative results with the two cases of parasyphilis, with the case of epitrochlear glands and with two of the remaining three cases

One other case in the series deserves mention—a case of rat-bite fever The serum here gave a negative Wassermann but a positive Formol-gel reaction This finding is of interest in view of the results at present being obtained with the Formol-gel test in cases of kala-azar It is just possible that other diseases, besides kala-azar, may also give a positive reaction with this test

THE VALUE OF CULTURE OF THE PERIPHERAL BLOOD IN KALA-AZAR AS A DIAGNOSTIC PROCEDURE

By Dr T SEETHAPATHY AYYAR, L M S,
and
Dr K. V KRISHNAN, M B, B S
(From the King Institute of Preventive Medicine, Guindy)

THE success which has followed attempts to cultivate the Leishman Donovan body from the peripheral blood in cases of kala-azar has varied considerably in the hands of different authors

spring have undergone alteration during the 35 years since Professor Antisell's examination.

MISSISQUOI SPRING, SHELDON, VT

New Analysis Bureau of Chemistry One U S gallon contains Solids	grs	Old Analysis. Prof. S Dana Hayes, 1867 One U S gallon contains Solids	grs.
Ammonium chlorid	trace		
Lithium chlorid	trace		
Potassium chlorid	0 20		
Sodium chlorid	0 12		
Sodium sulphate	1.43		
Sodium metaborate	trace	Total solid contents shown by	
Calcium phosphate	trace	Prof Hayes analysis 15 75	
Sodium nitrate	trace	grains Hypothetical com	
Sodium bicarbonate	1 06	binations not figured out	
Magnesium bicarbonate	4 88		
Calcium bicarbonate	0 88		
Ferric oxid and alumina	0 12		
Manganо manganic oxid	0 03		
Calcium silicate	0 50		
Silica	2 23		
Total	20 40	Total	15 75

According to the government chemists' report, "The two analyses do not differ more than would be expected in the case of samples taken on widely separated dates"

BEDFORD MINERAL WATER, BEDFORD, PA

New Analysis Bureau of Chemistry One U S gallon contains Solids	grs	Old Analysis Victor G Bloede Chemist, of Baltimore One U S gallon contains Solids.	grs
Ammonium chlorid	trace	Ammonium chlorid	0 02
Lithium chlorid	trace	Lithium chlorid	0 22
Potassium chlorid	0 53	Potassium carbonate	0 38
Sodium chlorid	0 73	Sodium chlorid	0 72
Magnesium sulphate	39 70	Magnesium sulphate	32 54
Calcium sulphate	90 34	Calcium sulphate	107 80
Sodium sulphate	1 68	Sodium carbonate	2 04
Calcium bicarbonate	14 51	Magnesium carbonate	6 06
Sodium metaborate	trace		
Sodium nitrate	trace		
Sodium nitrite	trace		
Ferric oxid and alumina	0 17	Ferric oxid and alumina.	0 16
Calcium silicate	1 91		
Silica	0 08	Silica	0 35
Total	156 87	Total	150 20

These analyses agree very closely, both qualitatively and quantitatively

BUFFALO LITHIA WATER BUFFALO LITHIA SPRINGS, VA

New Analysis Bureau of Chemistry One U S gallon contains Solids	grs	Old Analysis Prof Wm P Tonry Maryland Institute Baltimore One U S gallon contains Solids.	grs
Ammonium chlorid	trace	Lithium bicarbonate	2 25
Lithium chlorid	trace		
Sodium chlorid	0 70	Sodium chlorid	4 92
Potassium chlorid	0 44	Potassium carbonate	20 30
Calcium bicarbonate	6 53	Calcium bicarbonate	14 96
Magnesium sulphate	1 83	Magnesium sulphate	0 88
Calcium sulphate	27 50	Calcium sulphate	33 06
Sodium sulphate	4 60	Aluminum sulphate	9 07
Sodium nitrate	0 17	Organic matter	trace
Ferric oxid and alumina	0 04	Iron bicarbonate	0 30
Calcium silicate	0 37	Silica chlorid	1 87
Silica	1 83	Baryta bicarbonate	1 75
Calcium phosphate heavy	trace	Phosphoric acid	trace
Sodium nitrite	trace	Iodin	trace
Total	43 81	Total	98 36

It must be confessed that these analyses show a wide variation Quantitatively the excess in the older analysis is represented chiefly by the calcium salts, aluminum, lithium and sodium chlorid The qualitative determinations likewise present a wide divergence The minute amount of lithium shown in the government analysis would exclude the water from the lithia group In reply to a letter the writer is informed by the proprietors that the Bureau of Chemistry analysis having been made from samples bought in the open market it is possible that the examiners were imposed on with adulterated or fraudulent water Court records show that Buffalo Lithia bottles have frequently been filled with spurious water The proprietors state that they have relied implicitly on Professor Tonry's analysis and have had no intention to deceive the profession An entirely new analysis made at the springs would appear desirable

GENEVA LITHIA WATER, GENEVA, N Y

New Analysis Bureau of Chemistry One U S gallon contains Solids	grs	Old Analysis Prof A Auchie Cunningham 1 C S One U S gallon contains Solids	grs
Ammonium chlorid	trace		
Sodium chlorid	19 16	Sodium chlorid	24 54
Potassium chlorid	0 44	Potassium chlorid	13 40
Lithium chlorid	0 03	Lithium bicarbonate	10 03
Potassium iodid	trace	Lithium sulphate	4 10
Sodium sulphate	0 16	Sodium sulphate	17 64
Magnesium sulphate	33 36	Magnesium sulphate	83 13
Calcium sulphate	87 01	Calcium sulphate	18 75
Calcium bicarbonate	18 89	Calcium carbonate	35 84
Sodium metaborate	trace	Magnesium carbonate	16 00
Sodium nitrate	trace		
Sodium nitrite	trace	Phosphoric acid	trace
Ferric oxid and alumina	0 05	Iron carbonate	2 16
Silica	0 82	Aluminum sulphate	8 75
Calcium phosphate	trace		
Total	159 82	Total	234 33

These determinations present wide variations in the most important ingredients, viz in the sulphates of sodium and magnesium, the carbonate of magnesium, the salts of lithium, and in iron The Bureau of Chemistry analysis verifies that of Professor Cunningham so far as to show that Geneva is a very useful water of the sulphated-saline-calcic class, but it should no longer be denominated or prescribed as a "lithia" water

LONDONDERRY LITHIA WATER, LONDONDERRY, N H

New Analysis Bureau of Chemistry One U S gallon contains Solids	grs	Old Analysis Prof H Halvorson One U S gallon contains Solids	grs
Sodium chlorid	0 03	Sodium chlorid	0 83
Lithium chlorid	trace	Lithium bicarbonate	7 20
Potassium chlorid	0 26	Potassium sulphate	0 70
Sodium sulphate	0 65	Calcium sulphate	25 13
Ammonium chlorid	trace	Aluminum sulphate	5 07
Sodium nitrate	0 23		
Sodium nitrite	trace	Organic matter	0 00
Sodium bicarbonate	0 42	Potassium carbonate	18 33
Magnesium bicarbonate	0 41	Magnesium carbonate	7 53
Calcium bicarbonate	2 14	Calcium bicarbonate	7 29
Ferric oxid and alumina	0 02	Iron carbonate	1 85
Calcium silicate	0 07		
Silica	0 95	Silica	1 25
Total	5 18	Total	74 87

These tables are totally irreconcilable The Bureau of Chemistry analysis shows a smaller mineral content than is found in many ordinary drinking waters In a recent letter to the writer the present proprietors of the spring state that they have accepted and used in good faith the analyses of Professors H Halvorson and R Ogden Doremus made under a former management Recently, however, they had had reason to suspect the inaccuracy of these analyses and have not used them in their advertising The water is now recommended and sold simply on its merits as a natural water as it flows from the spring Londonderry may be recommended as a safe and pleasant beverage but no physician can correctly prescribe it as a "lithia" water

POLAND WATER, SOUTH POLAND, ME

New Analysis Bureau of Chemistry One U S gallon contains Solids	grs.	Old Analysis Prof C L Bartlett State Assayer and Chemist, 1879 One U S gallon contains Solids	grs
Ammonium chlorid	trace		
Lithium chlorid minute	trace	Lithium	trace
Sodium chlorid	0 26	Sodium chlorid	0 47
Potassium chlorid	0 06		
Sodium sulphate	0 0	Potassium sulphate	0 18
Calcium bicarbonate	2 67	Calcium carbonate	1 36
Magnesium bicarbonate	0 73	Magnesium carbonate	0 31
		Iron carbonate	trace
Sodium nitrate	0 46		
Sodium nitrite	trace	Organic matter	0 28
Sodium bicarbonate	0 25	Sodium carbonate	0 09
Calcium phosphate	trace	Calcium fluorid	trace
Calcium silicate	0 42		
Ferric oxid and alumina	0 07	Alumina	trace
Silica	1 16	Silica	1 07
Total	6 54	Total	3 76

hands had changed colour from normal to a slight blackish tint Thermal and tactile sensations were present The heart showed accentuation of the first and reduplication of the second sound There was no thickening of the smaller arteries felt by the fingers No history of syphilis, etc

In two or three days' time the discolouration deepened, the affected tips were cold and a bit tough, shrunken and wrinkled The tip of the thumb of the right hand was also included in the process Tactile and thermal sensations were gradually being lost and the parts looked lifeless The radial arteries were beating regularly and with the same low tension as before The patient had rather a bad cough, but took his food well and was apparently improving He was hopeful, too, especially on being assured that, as he had been for some considerable time detailed for duty in the "langar-khana" or cook-room, disease had brought on the burning of his fingers (due to constant lifting of hot pots, etc), but latent for a long time !

In a week's time, most of the tips had become jet-black, as though completely charred wrinkled, hard, and shrunken, and absolutely devoid of all sensations He was able to grasp a cup by the palm and fingers, but could not button his shirt It was a pity to see this living man with dead finger-tips ! Not all the phalanges were involved, the tips of most fingers and middle phalanges of some In the case of the right thumb only the distal phalanx was affected

The climate was very cold at the time and exposed water used to freeze by morning The patient was, however, comparatively well-protected from cold and drafts, that is considering the exigences of active service in an out-of-the-way station

I could not do anything for the unfortunate soldier beyond symptomatic and common-sense treatment, and the patient died soon afterwards

I do not think it was frost-bite , I do not think it was embolic gangrene, due to endocarditis, as there was neither fever nor any sign of valvular affection What I do think is that it was probably a gradual failing of the circulation though I cannot say why the process did not start in the toes first But this was perhaps because the feet were always properly covered, whereas the hands could not, for obvious reasons, remain so

Such a phenomenon being unusual I have permitted myself to report it to the profession

ACUTE "KODON" POISONING

By ANAND SWARUP, MB BS
Assistant Surgeon, Shahjehanpur

ON the night of March 4th 1922, four cases of acute poisoning were brought to Tilhar dispensary in the district of Shahjehanpur by the police There was an old woman aged 50 years two little boys aged 9 and 12 and a man of about 22 All were unconscious at the time The pulse in every case was quick and small, and the extremities were cold The woman and one boy could be roused on shouting, whereas the other two and particularly the young man were absolutely unconscious and did not respond to any stimulus The stomach was washed out in each case, but great difficulty was experienced in the case of the young man, in which case a mouth-gag had to be applied before the stomach tube could be passed Particles of food of a blackish colour were removed from the stomach Three recovered consciousness within an hour but the fourth patient, the young man, baffled all efforts After the washing out of his stomach he opened his eyes and began to struggle, but was otherwise unconscious of his surroundings He could not sit or stand, and resisted interference so that when an attempt was made to give him a dose of stimulant mixture he clenched his teeth and his limbs became stiff when an attempt was made to move them On the other hand if he was left undisturbed he lay flat on his back quite calm and unconscious He was then left to himself in a bed, well covered with blankets, a dose of stimulant mixture was administered by the help of the gag Hot tea was given after some time The patient rallied in the morning His pulse became much better, and he could be roused on shouting and gradually began to answer questions

The three other patients who had become conscious continued to vomit for several hours and showed a continuous shaking of their bodies, particularly of the upper extremities as if they were shivering from cold, and this continued even when they were well covered with blankets and also later on when they were sitting in the sun

There was no diarrhœa, thus showing absence of intestinal irritation The pupils were examined by daylight They were normal as regards size and reflexes The respiratory system was not affected

It appeared from the statement of the patients as well as from the police report that the patients had taken that evening bread made from some flour of "Kodon" About an hour and a half after taking their meal they were attacked by vomiting and giddiness and then all became unconscious

The symptoms were quite distinct from those of *dhatura* and opium poisonings, inasmuch as the pupils were normal, there was no dryness of the throat and the respiration was unaffected The nervous system and the cardio-vascular system were markedly affected with some irritation of the stomach, but not the intestine thus differing from ptomaine poisoning

My attention was first directed to this kind of poisoning by a landholder at Tilhar On the 27th of February 1922 he told me that all the members of a family in one of his villages were

The government analysis is a little stronger, quantitatively but not so rich in a qualitative sense as that of Professor Frechling The slight increase in lime salts in the new analysis covers the quantitative differences On the whole, the two tables agree as well as could be expected The Crockett water suffers no deterioration from the re-examination The water may properly be termed a light sulphated-saline-arsenical water, but the designation of "lithia" ought to be dropped, as it would require at least 75 gallons of the water to yield one moderate dose of that drug

BLUE LICK WATER, BLUE LICK SPRINGS KY

New Analysis Bureau of Chemistry One U S gallon contains Solids	grs	Old Analysis Dr Robert Peter One U S gallon contains Solids	grs.
Ammonium chlorid	0 13		
Potassium chlorid	7 72	Potassium chlorid	1 39
Magnesium chlorid	40 55	Magnesium chlorid	3 39
Sodium chlorid	400 43	Sodium chlorid	512 85
Calcium chlorid	10 12		
Potassium bromid	1 97	Magnesium bromid	0 24
Potassium iodid	0 01	Magnesium iodid	0 05
Calcium sulphate	27 00	Calcium sulphate	33 99
Lithium chlorid	0 43	Potassium sulphate	8 93
Sodium metaborate	small amt.	Magnesium carbonate	1 36
Calcium bicarbonate	31 61	Calcium carbonate	23 65
Sodium nitrate	0 16		
Sodium nitrite	faint trace		
Calcium phosphate	faint trace		
Manganic manganic oxid	0 21	Silicic acid	1 10
Ferric oxid and alumina	0 08	Alum lime phosphate iron oxid	0 36
Silica	1 05	Loss	17 72
Total	522.74	Total	634 03

It is not stated by the government chemists whether their samples were taken from the Upper or Lower Blue Lick Springs The Blue Lick waters are all of the same class but as the bureau analysis resembles rather more closely the advertised analysis of the Lower springs we have selected that for comparison An examination was made of this water many years ago by Dr Robert Peter, the state geologist A careful comparison of the two tables shows a reasonably close agreement The quantitative discrepancy of the analyses is covered by the loss in sodium chlorid in the government determinations The Blue Lick water remains an excellent example of the sulphated-saline class

It is now well known that mineral waters possess no mysterious or occult virtues in the treatment of disease No mineral water will be accepted by the medical profession for alleged medicinal properties supported only by testimonials from bucolic statesmen and romantic old ladies In these days of twentieth century exactness it might almost be said that the most important thing about a mineral water is a trustworthy analysis It is only by this that the practitioner is able to decide as to its merits and to prescribe it intelligently It is therefore a matter of keen disappointment to learn by these new analyses how much mistaken we have been in regard to the chemical constitution of some of our best known waters Let us not, however be too hard on the spring proprietors There is very little evidence pointing to intentional fraud it can not be doubted that the present owners themselves have in more than one instance been deceived by analyses handed down from their predecessors In forming conclusions in reference to the extremely unsatisfactory state of affairs developed by the Bureau of Chemistry investigations certain facts come up for consideration

1 A great majority of the advertised analyses of our mineral waters were made many years since when methods were not so exact as they are at the present day

2 Some mineral springs are sensibly influenced by the wetness or dryness of the season both in strength and in volume, the greater the volume of the water the weaker it is in mineral ingredients examinations of such springs at different stages would undoubtedly yield dissimilar results

3 While many springs are of deep origin and show no apparent fluctuations in their rate of flow we have no positive proof that even these have not become more or less modified in character during the long period since the old analyses were made The subterranean aqueous current, which constitutes a spring when it reaches the surface can not be counted on continuously to come in contact with earth strata which yield a uniform product to its solvent power Underground streams, as well as those on the surface are liable to change their course, and while losing certain of their former contents, may acquire new ones

4 The fact must not be overlooked that the government analyses were made in each case from samples purchased in the open market It is therefore, possible that some of the waters examined by the bureau chemists were spurious or adulterated

5 The chemical ingredients set forth in the tables of contents of mineral springs represent hypothetical combinations only No chemist maintains that the salts he sets down in his analysis exist in exactly that form in the water He ascertains by his tests the various acid and basic ions existing in the water and, as nearly as possible, in what amounts He then reasons that they unite to form the salts which go to make up his hypothetical table of contents, which is presented as the analysis It is hardly conceivable that any two chemists separately examining a specimen of spring water taken from its source even at the same moment would reach exactly the same result in stating the theoretical combinations How much greater discrepancy might reasonably be expected in the case of analyses separated by periods of 30 or 40 years!

With all due allowance for the above considerations, however it must be confessed that we are in a state of inexcusable ignorance regarding the chemical constitution of many of these agents Mineral water therapeutics must remain in a backward and unsatisfactory state until this is remedied All of our medicinal springs should be submitted to analysis at least once in ten years until we are able to arrive at a correct estimate of their potency and whether they are gaining or losing in strength No enterprising mineral spring proprietor animated by a desire to put forth a reliable product can object to the expense repeated at intervals so widely separated The decennial revisions of our works on materia medica and pharmacy should present a brief account of the mineral waters conforming to ethical rules so that the medical practitioner may be in possession of as authentic and authoritative a source of information regarding these as he has in case of other therapeutic agents

46 West Eighty fourth Street

Bier's Hyperemia in Bone Tuberculosis.—S H Westman in *Dominion Medical Monthly* states that this method of treatment of tuberculosis of bones and joints does not take the place of radical methods where these are indicated but it does lessen the frequency of severe surgical measures In the great majority of cases it is pleasant for the patient it relieves pain it allows him use of the limb it is easily applied and can be used by the physician himself and lastly it affords a complete cure, with the best functional result

with the same object The operator takes the syringe filled with the quinine solution in his right hand and with the thumb of his left hand pressed on the vein to steady it, the needle, held almost flat with the skin surface, is boldly thrust through the skin into the vein, preferably the median basile The successful entrance into the vein is indicated by a flow of blood into the barrel of the syringe when the ligature in the arm is taken off and the solution is slowly injected into the vein At the completion of the operation, a sterile pad is placed over the site of puncture and is secured by a few turns of a bandage The only symptom complained of by the patient is a sensation of giddiness and heat in the brain which soon passes off

In cerebral malaria in comatose delirious and hyperpyrexial forms where no time should be lost in bringing the system quickly under the influence of Quinine, it should be the method of choice It is not so risky an operation as is supposed to be, and practitioners should resort to this method more freely It is far more safe and far less painful than the intramuscular injection of quinine while it gives the best results in the shortest possible time The age incidence varied from 3 to 50 years in a total of more than 200 individual cases treated by this method of which the details of 35 selected cases are given below —

1 Darsan Patra, Hindu male, 25 years, suffering for 4 months, from Quartan Malaria, spleen enlarged 4 fingers below costal arch 6 injections of Quinine given 10 grains daily Cured

2 Swarnamoni Dassi Hindu female, 30 years, suffering for 7 months from malignant Sub-Tertian, spleen enlarged almost up to navel 7 injections of Quinine given, 10 grains daily Cured

3 Mahendra, Hindu male 25 years, suffering for 2 years from malignant Sub Tertian, spleen enlarged almost up to navel, 7 injections of Quinine given, 10 grains daily Cured

4 Brajo Naik, Hindu male, 27 years, suffering for 6 months from Benign Tertian, spleen enlarged 3 fingers below costal arch, 6 injections of Quinine given, 5 grains daily Cured

5 Khirode Maiti, Hindu male, 35 years, suffering for 1 year from mixed infection spleen enlarged up to navel, 7 injections of Quinine given, 10 grains daily Cured

6 Byno Sahoo, Hindu male 32 years, suffering from Benign Tertian for 4 months spleen enlarged 4 fingers below costal arch 3 injections of Quinine given, 10 grains daily Cured

7 Hanif Khan, Mahomedan male, 28 years, suffering for 14 months from mixed infection, spleen enlarged up to navel, 6 injections of Quinine given, 10 grains daily Cured

8 Dilan, Mahomedan male, 20 years, suffering for 1 year from Quartan Malaria, spleen enlarged extending below umbilicus, 7 injections of Quinine given, 10 grains daily Cured

9 Basir Mahomedan male, 30 years, suffering for 4 months from Benign Tertian, spleen enlarged 4 fingers below costal arch, 4 injections of Quinine given, 10 grains daily Cured

10 Srikanto, Hindu male, 25 years suffering for 2 months from Quotidian, spleen enlarged 3 fingers below costal arch, 6 injections of Quinine given, 5 grains daily Cured

11 Iswar, Hindu male, 40 years, suffering for 6 months from Malignant Sub-Tertian, spleen enlarged 4 fingers below costal arch, 6 injections of Quinine given, 10 grains every other day Cured

12 Dinobandhu, Hindu male, 15 years, suffering for 6 months from mixed infection, spleen enlarged 4 fingers, 6 injections of Quinine given, 5 grains daily Cured

13 Byani Hindu female, 12 years, suffering for 6 months from Malignant Sub-Tertian, spleen enlarged 4 fingers, 6 injections of Quinine given, 3 grains daily Cured

14 Gunadhar, Hindu male, 20 years, suffering for 1 year from mixed infection, spleen enlarged up to navel, 6 injections of Quinine given, 10 grains every other day Cured

15 Manmotho N Singh, Hindu male, 22 years, suffering for 1 year from mixed infection, spleen enlarged up to navel, 6 injections of Quinine given, 10 grains daily Cured

16 Gazendra Bera, Hindu male 50 years, suffering for 1 month from Quotidian, spleen enlarged 4 fingers, 3 injections of Quinine given, 10 grains daily Cured

17 Jiban Ghorai Hindu male, 20 years, suffering for 3 months from Benign Tertian, spleen enlarged 3 fingers, 5 injections of Quinine given, 10 grains daily Cured

18 Neamat, Mahomedan child, 8 years, suffering for 3 months from Benign Tertian, spleen enlarged up to navel, 6 injections of Quinine given, 2 grains every other day Cured

19 Sital, Hindu male, 25 years, suffering for 1 year from mixed infection, spleen enlarged up to navel, 7 injections of Quinine given, 10 grains daily Cured

20 Jagannath, Hindu male, 20 years, suffering for 3 months from Benign Tertian spleen enlarged 4 fingers, 6 injections of Quinine given, 5 grains daily Cured

21 Bhupen, Hindu male, 20 years, suffering for 6 months from Malignant Sub-Tertian, spleen enlarged up to navel, 7 injections of Quinine given, 10 grains every other day Cured

22 Gadadhar, Hindu male, 36 years, suffering for 6 months from Tertian, spleen enlarged 4 fingers, 3 injections of Quinine given, 10 grains daily Cured

23 Chaturbhuj Hindu male, 15 years suffering for 2 years from Tertian spleen enlarged up to navel, 7 injections of Quinine given, 5 grains every other day Cured

24 Hari, Hindu male, 11 years, suffering for 4 months from Quartan Malaria, spleen enlarged 4 fingers, 5 injections of Quinine given, 3 grains daily Cured

25 Bepin Bhuian, Hindu male child, 3 years, suffering for 2 months from Tertian Malaria, spleen enlarged 4 fingers, 5 Quinine injections given, 1 grain daily Cured.

26 Nitya Bhuian, Hindu male child, 5 years, suffering for 2 months from Tertian, spleen enlarged 3 fingers, 6 Quinine injections given, 2 grains every other day Cured

27 Nato, Hindu male, 20 years, suffering for 1 year from Tertian Malaria, spleen enlarged 4 fingers, 6 injections of Quinine given, 5 grains daily Cured

28 Giris, Hindu male, 14 years, suffering for 7 months from Malignant Sub-Tertian Malaria, spleen enlarged up to navel, 7 injections of Quinine given, 5 grains daily Cured

29 Subhadra, Hindu male, 12 years, suffering for 6 months from Tertian Malaria, spleen enlarged up to navel, 5 injections of Quinine given, 3 grains daily Cured.

30 Sukhchand, Hindu male, 16 years, suffering for 3 months from Tertian, spleen enlarged 3 fingers, 4 injections of Quinine given, 5 grains daily Cured

31 Suren, Hindu male, 25 years, suffering for 2 months from Quartan Malaria, spleen enlarged 4 fingers, 6 injections of Quinine given, 10 grains daily Cured.

32 Bhupen, Hindu male, 25 years, suffering for 7 months from mixed infection, spleen enlarged up to navel, 5 injections of Quinine given, 10 grains daily Cured

oatmeal diet of a little clear coffee, sour wine or something green like celery, lettuce or spinach has relieved the monotony and overcome the anorexia, nausea or vomiting.

A hint that has proven valuable was given me by a physician who was under my care for diabetes. He suggested that the oatmeal might be more palatable if it were made into balls like meat-balls or sausage cakes and then fried just enough to brown the outside a little if it were, in other words, prepared after the manner of fried mush. The taste of the burnt or browned coating is rather pleasant and makes the food far more palatable than when it is served either as a rather thick mush or as a thinner soup or gruel. A little explanation to patients as to what one hopes to accomplish by the diet thus securing their intelligent cooperation, is a valuable adjunct to the successful carrying out of the plan. It is often much more satisfactory to treat the patient in the hospital than at his home or in one's office. The objection, therefore that the diet is intolerably unpalatable is met by care in the preparation and manner of administering the food by securing the cooperation of the patient as well as by the fact that experience shows that most patients can and do take this food for many days without complaint.

A second objection that the large amount of fat might increase the acetonuria is met by the clinical fact supported by many observations that the exact opposite happens, the amount of acetone distinctly lessens.

Again the feeding of 250 grams of oatmeal, representing 150 grams of carbohydrate starch, would seem at first blush absolutely irrational and destined to aggravate the difficulty in every way. The answer again is that in these selected cases of the severer type the exact opposite occurs the sugar diminishes in quantity the acetone bodies are reduced in amount thirst and polyuria are markedly lessened there is an increase in weight and strength and a general feeling of well-being.

Explanation of Action of the Diet.—The explanation for all this is not easy. That a too rigid exclusion of carbohydrates may lead to acidosis and coma is a matter of common knowledge. Possibly the starch of the oatmeal may furnish the oxygen molecule that is needed for the process of oxidation by which the oxybutyric acid is converted in turn into diacetic acid acetone, and finally into water and carbonic dioxid this molecule of oxygen in the oatmeal being perhaps rather loosely bound or for some other reason easily available. The oatmeal therefore causes prompt increase in the oxidative process just referred to with corresponding reduction in the acidosis with its urinary evidences.

Why sugar is not increased in amount is not known. Are all starches alike? Are the starches from rice, potato wheat rye oatmeal etc identical chemically and structurally and is their metabolic change in the body always one and the same chemical process? Mosse[2] accomplished remarkable results in diabetes by a potato diet. Duhring by a rice diet. Will the use of a single kind of starch or other carbohydrate be better tolerated than a mixing of the varieties? Or may it be as von Noorden suggests that one kind of starch e. g., oatmeal starch is better tolerated than another? Certain it is that in some of these cases of diabetes undergoing treatment by the oatmeal diet one can not indiscriminately and abruptly substitute another carbohydrate such as cane sugar or wheat starch for the oatmeal. A prompt rise in the glycosuria is the result. These facts suggest interesting fields for investigation along the line of physiologic and clinical chemistry. That the oatmeal does not pass through the body unchanged is shown by the investigations of Lipetz from Naunyn's clinic, to be referred to later on.

Practical Results.—Von Noorden, in 1903, had an experience with this diet in about one hundred cases reaching the conclusions already cited. He gives the histories of five patients representing various types from the standpoint of this diet.

CASE 1.—A boy of 18, on ordinary strict diet, passed daily 50 grams of sugar with acetone and diacetic acid. On the oatmeal diet the sugar disappeared, as did the diacetic acid, the acetone was represented by only the normal amount. There was an increase in weight. On gradual resumption of ordinary diet it was found that tolerance had been established, sugar not reappearing in the urine.

CASE 2.—Age 20. Coma seemed imminent. On oatmeal, coma averted, sugar reduced from 100 grams daily to less than 5 grams. Gain in weight. Yet tolerance not established for sugar again present in urine when ordinary diabetic diet is resumed. Net result, averting of coma and improvement in general condition.

CASE 3.—On oatmeal diet sugar greatly reduced and general condition as to strength, weight, etc., much improved, yet sugar never disappeared from urine.

CASE 4.—No influence on sugar output or on acetone bodies. Tolerance not established.

CASE 5.—Light case of diabetes, not tolerating oatmeal diet as well as ordinary diabetic diet. "Light cases without diaceturia, according to my experience, tolerate the oatmeal treatment poorly and show a lessened tolerance if the diet is persisted in for a long time" (Noorden).

Sigel,[3] from Ewald's clinic, concludes that the oatmeal diet is a valuable therapeutic agent. His first case is instructive:

A patient of 33 years, on a carbohydrate-free diet, passed daily 50 to 70 grams of sugar. Bicarbonate of soda did not influence the output of sugar or acetone. After a week of oatmeal the sugar was 16 grams. Then peameal was used instead of oatmeal, and the sugar rose to 74 grams. Then on ten days of oatmeal it dropped to 4 grams. The patient was then gradually brought back to the ordinary diabetic diet, containing, however considerable oatmeal gruel. Sugar was passed in amounts varying from 20 to 40 grams a day, but there was a distinct gain in general bodily condition and the acetone bodies were absent from the urine. An interesting feature of this case and one seeming to point toward an essential difference between the starches as found in various foods, is the intolerance of this patient for the peameal and the tolerance for oatmeal.

In a discussion of Dr. Tyson's paper, read before the Section on Pharmacology and Therapeutics of the American Medical Association, 1907 Dr. G. M. Linthicum of Baltimore, cites a case that he had treated in which a diabetes of a malicious type in a boy of 8 years, was checked at least temporarily, by the oatmeal diet, though it had resisted the restricted diet and drugs.

Not all observers report favorably on this method of treatment. Lipetz[4] from Naunyn's clinic, seems convinced *a priori* that there is something wrong about the paradoxical statement that such a large amount of carbohydrate as 250 grams of oatmeal can be given to a diabetic and the sugar not increase but actually disappear. He investigated to see whether the starch was absorbed whether the patients were not in reality living solely on the fat and protein of the diet. He convinced himself that the starch does not pass through the ali-

2. Rev. de Méd., xxii, p. 107, 1902.

3. Berlin. klin. Wochschr., No. 1, 1904, p. 19.

4. Zeit. f. klin. Med., lvi, 1905, p. 188.

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(Vide Presidential Address, British Pharmaceutical Congress, 10th July 1918)

was a gain of 4 pounds in weight The patient expressed himself as feeling better than since his diabetes began Sugar, however, appeared when a fuller diet was taken, and to-day, while the patient is able to be actively at work, he notices neuralgic (neuritic?) pains, is somewhat weak and is 8 pounds lighter than after the Noorden diet Another oatmeal course would probably be of benefit

CASE 6.—A man of 58 consulted a surgeon, in 1903, for a carbuncle on the back of the neck Sugar was found in the urine and only partially disappeared under a non carbohydrate diet This fall, 1907, the patient again returned because of a sluggish ulcer of the foot He was weak, greatly emaciated, thirsty, and was passing 75 gms of sugar a day I advised the oatmeal diet with the result that the sugar was reduced in four days to 3 grams Mere traces were present during the next two weeks, though he was gradually brought back to a proteid and fat diet, some oatmeal and potato also being allowed

CASE 7.—In a male of 42 in the County Hospital with marked polyuria emaciation asthenia and excessive thirst, there was always, even under a strict diabetic diet, over 4 per cent of sugar On one examination the interne reported 12 per cent Acetone and diacetic acid were present There was, in addition to the diabetes, a complicating apical tuberculosis The patient was losing ground rapidly On the oatmeal diet the urine decreased in quantity from 3,800 c c to 2,000 c c, and the sugar and acetone bodies disappeared Four weeks later and after ordinary diet had been taken for several days, he succumbed to an acute pulmonary edema (acute miliary tuberculosis?)

CASE 8.—E D M 42 years old, an alcoholic, was admitted to the Cook County Hospital because of a foot drop from neuritis, presumably diabetic in origin He developed also an ischiorectal abscess that was treated surgically Emaciation and weakness were marked, and to judge from the symptoms, diabetes had existed four months and had been progressing rapidly The urine at one time amounted to 7,830 c c., and sugar 313 gms per day Diacetic acid was abundant On rather large doses of codein, heroin, antipyrin and bicarbonate of soda, all given at the same time, with a proteid diet, to which a little white bread was added, there was a marked improvement, the sugar being reduced to 22 gms But in a few days it went up to 52 gms November 6, 1907, I suggested a trial of the von Noorden diet The urinalysis of November 9 is 2,000 c.c sp gr 1 014, no sugar This was the first time in four weeks that no sugar had been found For three weeks, and though ordinary diabetic diet has been resumed, there has been no sugar found, or only very small amounts Diacetic acid has not reappeared

Nothing has been more surprising or more gratifying than the effect of this diet in the diabetes of the young a form notoriously hard to manage and of unfavorable course I have seen in the last twelve months four girls under 17 years of age suffering from typical diabetes mellitus In each case the disease had been recognized by the attending physician and a strict diabetic diet only had been allowed Some amelioration of symptoms had followed but there was still in each case much thirst, polyuria and glycosuria, and the patients bade fair to go the usual way of the youthful diabetic In each instance the response to the oatmeal diet was prompt in that the amount of urine became decidedly less its specific gravity was reduced and in three of the cases sugar entirely disappeared for a time Thirst was less annoying there was a gain in strength and weight

In one case (Case 9) the diet was poorly tolerated nausea occurring and I judge from the doctor's letter that there was very early a relaxation in the matter of diet and a return of all the old symptoms The disease in this girl of twelve began suddenly three weeks before with extreme thirst increased appetite rapid loss in weight languor She had passed as high as one gallon of urine in a day and it was rich in sugar and of a specific gravity of 1,045 The doctor writes "Our patient got along nicely while she was on her diet, which I have found lately was only a few days The parents did not watch her carefully and she ate things that were forbidden" This emphasizes the fact that the determined cooperation of the patient, together with that of the friends in attendance is extremely important in the carrying out of any dietetic regime in diabetes This is particularly true in the case of children who should be watched carefully In general, the hospital is the safer place for the initiation of any rigorous diet The first few days of strictest diet are best passed under the eye of the nurse who is cold to entreaty and unflinching in her duty

CASE 10.—T D a girl of 15, was brought to me by her physician, Feb 7 1907 Symptoms would indicate that the diabetes had existed four or five months There was always sugar, even on restricted diet, and the thirst fatigue and progressive emaciation, with persistent saccharine polyuria, showed that the case was progressing unfavorably After twelve days of the oatmeal diet the doctor wrote "To day's urinalysis is as follows Sp gr 1 012, slightly acid, no albumin and absolutely no sugar" This patient's tolerance was increased by the diet, and for a long time no sugar was present in the urine But gradually, on the fuller diet, sugar has appeared Nov 25 1907, her physician wrote that she was not doing so well She had gained 3 pounds in weight, but was weak, the urine contained sugar and some albumin, sp gr 1 032, and amounted to 3,000 c c for twenty four hours The prompt response to the strict diet was however most gratifying Another rigid course should now be prescribed so that tolerance may, if possible, again be established

CASE 11.—Elizabeth B, 10 years of age Two months ago had a slight indisposition attended by a little rise in temperature, some epigastric tenderness and a faint yet distinct icterus (Query Was there some acute infection of the pancreas at this time?) Six weeks later she became thirsty Her father a physician, examined the urine and found 4 000 c c, sp gr 1 040 with a large amount of sugar On a restricted diet the amount of urine came down to 1 500 c c., but it had been for two weeks persistently high in specific gravity, always contained about 5 per cent of sugar The child was weak She was brought to me Dec 27, 1906 Aside from a barely palpable liver and a confirmation of the doctor's urinalysis, diacetic acid being found, the examination revealed nothing worthy of note The oatmeal diet was begun at once Jan 2, 1907, she came to me again The urine for twenty four hours was 1 000 c c and contained some acetone but no sugar The sugar had entirely disappeared after three days of the oatmeal diet

June 14 1907 I again saw her in the office The report showed that no sugar had been present in the urine from January 1 to June 1 Then for three days there was a little sugar On the von Noorden diet the sugar had again promptly disappeared The patient looked well weight 70 pounds She felt strong and was attending school There was no nocturnal urination The amount of urine during April and May had averaged 30 ounces Then at the time of the reappearance of sugar the amount had run up to 48 ounces Daily examinations had been made for six months The diet had been the diet described in the quotation from the letter of February 25

Nov 20, 1907 "Yours of the 18th instant at hand and in reply will say that Elizabeth has continued in much the same condition she was when you saw her last. Occasionally a little sugar shows in her tests, which are still made every day The sugar however is never present for more than three days at any time since ten months ago The last two times it was not present for more than twenty four hours She has gained 8 pounds in the last ten months and is going to school Her appetite is quite variable, eating about one good square meal in the day Her bowels are quite regular color dark to light brown Urine about 32 to 40 ounces in twenty four hours There has been on the average about one day in the week

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be relied on as the sole guide to the patient's condition

In these doubtful cases, therefore, cases presenting vague general symptoms with negative results from urine examinations, any corroborative evidence of actual toxemia is of the greatest value It is in this emergency and under these conditions that an ophthalmoscopic examination is particularly indicated, and it is time that obstetricians should appreciate two facts, first, that changes in the eye-grounds which have been occasioned by renal disease, and are almost certainly diagnostic of renal disease, may precede the presence of albumin in the urine, and second, that the ophthalmoscope may give evidence of disease of organs other than the kidneys which has been excited by the toxemia of pregnancy

While the renal condition which arises in pregnancy is an acute one, it is not unlikely that chronic nephritis may have existed in many cases prior to pregnancy An examination of the fundus under these conditions reveals in most instances disease of the retinal vessels and serves to put the obstetrician on his guard The usual ophthalmoscopic picture of the renal disease of pregnancy, retinitis albuminuria gravidarum, is that of other varieties of Bright's disease, consisting of a well-marked inflammation of the optic nerve and retina with extravasations and hemorrhages This form of retinitis occurs most frequently in primiparæ, though among 19 cases seen by Nettleship, the ocular inflammation occurred during the fifth or a subsequent pregnancy in no less than 14, in 4 of the remaining 5 cases it came with the first pregnancy

The ocular symptoms of the toxemia of pregnancy other than that occasioned by nephritis have not as yet been grouped into particular types, indeed, it may be said that the ocular symptoms of toxemia and autointoxication in general, quite apart from the toxemia of pregnancy, have as yet received but little attention from ophthalmologists Uhthoff has classified them,[1] and Elschnig,[2] de Schweinitz,[3] and others have contributed valuable papers on the subject, but the whole field is still largely unexplored There have been, however, a certain number of cases cited of ocular lesions occurring in pregnancy without the presence of albumin in the urine all of which manifested general symptoms which pointed to the existence of a general toxemia

Arnold Knapp[4] recently reported 10 cases where the optic nerve and retina during pregnancy and labor showed changes which differed from albuminuria gravidarum Of this number Knapp thought 7 were complicated by sepsis, but the remaining 3 occurred with other complications of toxemia and were attributed by him to that cause The brief report of his cases is as follows

CASE 1.—Patient, aged 32, had five children in a period from eleven to five years ago She then had four abortions She is now in the eighth month of pregnancy Six weeks ago suffered from severe headache and vomiting Five weeks ago the right eye became blurred, which was shortly followed by an involvement of the left, and in one week both eyes were blind She has had no convulsions The headache and vomiting have ceased Urine examination shows sp gr 1 020, faint trace of albumin proportion of urea nitrogen greatly reduced

Examination.—Both pupils widely dilated and immobile no perception of light in any part of the field Both optic discs are white, outlines indistinct Arteries narrow There is some edema of the retina in the macular region On July 20, labor was induced, and a dead child delivered Mother died of septicemia

CASE 2.—In preceding pregnancy there was loss of sight, becoming worse after labor for three weeks, it then improved, but there remained asthenopia At present, in eighth month of pregnancy, there is albuminuria, blurred vision, optic nerves white and ill defined, field normal

CASE 3.—Primipara Three months ago her vision was blurred for two weeks She then had headache Now near term the legs are swollen, the urine contains some albumin, optic nerves distinctly white, right, blurred, nasal half, swollen, left, flat, vision and field normal

In addition to these observations, Knapp has often been impressed by the frequent appearance of pale optic nerves in women, often with normal vision, who have borne children, and he raises the query whether this may not be the evidence of some toxic influence during preceding pregnancies

Reich has seen marked choked disc in a pregnant woman, which terminated in complete recovery, and Cohn has recorded two instances and Uhthoff four of chronic retrobulbar neuritis with central scotoma in pregnant women Other cases have been reported[4] by Kipp, Valude, Power, Lanford, Knaggs and Ole Bull

According to Groenouw, all diseases of the optic nerve occurring in pregnant women have much in common Thus, as a rule, the disturbance in vision does not begin before the fourth month of pregnancy, though at times it may not appear until in the seventh to the tenth month Valude's is the only case in which the commencement of the eye affection fell in the first month In this instance a 30-year-old woman suffered from a visual disturbance of the left eye that was always worse during menstruation, which had dated from her first pregnancy, nine years before In the second pregnancy the vision of the left eye became affected in the first month, perception of light and darkness alone remaining Two months later the vision in the right eye also became affected, sinking to 1/10 The ophthalmoscope showed consecutive atrophy of the optic nerve on both sides Labor was artificially induced, and thirteen days later vision in the right eye rose to 2/3, though that in the left eye remained the same

Groenouw believes that the causal connection between the disease of the optic nerve in these cases and pregnancy is proved by the fact of the recurrence of the ocular affection with each pregnancy He avers also that the origin of the neuritis can scarcely be due to uremia, on account of its slow progression, its long duration and the absence of albumin in the urine, and attributes it to an autointoxication acting similarly to that which is observed in affections of the optic nerve, such as are described by Uhthoff as occurring during labor and lactation

Nettleship, similarly, in referring to a class of cases observed by him in whom sight failed soon after confinement, but finally returned to a greater or less degree, is of the opinion that a link, perhaps, is furnished between neuroretinitis from loss of blood, which, after all, may be in a sense toxic, optic neuritis in puerperal polyneuritis, uremic blindness and other more acute examples of albuminuric retinitis He says that in this type of cases the condition of the fundus during the active period is unknown, but when examined some time after recovery, traces of past optic neuritis are found in some of them, though in others no visible changes remain In none were any signs of widely spread neuritis ob-

1 Second Edition of Graefe-Saemisch Handb d Ges amten Aug ahell., xxxii 74
2 Klin Monat bl f Augenheil 1907 xliii, 2.
3 Section on Ophthalmology American Medical Association
1 THE JOURNAL A M A Feb 9 1907
4 Trans Am Ophth Soc xi, Part 2.

Indian Medical Gazette.

JULY

THE USE AND ABUSE OF VACCINE THERAPY *

"Truth" has recently been enlivened by a vigorous controversy concerning the usefulness or otherwise of compulsory vaccination against the enteric group of fevers There is something to be said for the view that the decline of enteric fevers in inoculated military populations is due rather to improved military sanitation than to large scale prophylactic inoculations It is rather a pity however that "Truth" should spoil a good case by over-statement and exaggeration What is wanted in connection with the "T A. B" controversy is not heated arguments but patient and impartial investigation of facts and accumulation of evidence A good example of such statistics, albeit on a small scale, was given in the "Current Topics" in our last number

That bacterial vaccines have come to stay it would be idle to deny That they are capable of abuse is evident on every hand In the first place they are extremely profitable to the "bacteriological physician,"—who may be defined as knowing little medicine and less bacteriology— , secondly, the lay public, duly educated by the newspapers, has now a touching faith in any and every vaccine a patient once placed on vaccine treatment is optimistic as to results, and optimism on the part of the patient is a very real asset towards success Properly used and with their results carefully watched vaccines are of very great value But there has recently come into our hands an amazing prescription It commences with the familiar 'Recipe", but proceeds to direct that so many million stock B coli Streptococcus fæcalis B fæcalis alkaligenes Staphylococcus aureus vel albus, etc shall be well and truly sterilized and mixed, and that the patient shall receive from one to five mils of this mixture hypodermically at suitable intervals As the patient in question was suffering from a fever of undetermined causation it is unlikely that such a blunderbuss prescription could have any effect on his condition,—other than possibly the induction of protein shock

A reference to the index of the Medical Annual for 1922 shews that to-day bacterial vaccines are being used in the treatment of a large number of diseases, varying from alopecia areata to whooping cough It is indeed easy to see how the present day status and confusion with regard to vaccine therapy has come about Once the germ theory of disease was firmly established by Pasteur his introduction of vaccines against anthrax and rabies followed The fiasco of Koch's original tuberculin in 1895 rather damped enthusiasts, but the brilliant results of anti-staphylococcal vaccines in boils as introduced by Sir Almroth Wright; and the introduction of typhoid vaccines in military circles by Wright and Leishman opened up new vistas of therapy As introduced by Sir Almroth Wright vaccines were autogenous preparations used only with the most scrupulous care as regards dosage and intervals and with control observations on the opsonic index To-day the opsonic index is neglected, but so also is the habit of carefully watching the use of vaccines in each and every individual case Vaccine therapy to-day is now largely in the hands of persons who know little or nothing about it In staphyloccoccal infections they can scarcely go wrong whilst the utility of autogenous vaccines in streptococcal infections of the skin and in B coli infections of the renal tract is fairly well established But the "bacteriological physician" proceeds to administer vaccines wholesale for all sorts of conditions rheumatoid arthritis, of which the true etiology is still in doubt asthma, catarrhal infections of the respiratory tract, influenza and a hundred others Occasionally non-specific protein shock occurs and an apparently brilliant cure results occasionally also the patient may happen to be infected by and sensitive to one or other of the bacteria which happen to be included in the blunderbuss prescription and accidental cure results

Once given a brisk demand for vaccines, the manufacturing chemist was not slow to respond and even to exceed the supply demanded Every practitioner has cases where "something has got to be done" Hence we get strychnine used for patients dying of carcinoma salvarsan used in psoriasis, and

*From materials kindly supplied by Major H W Acton I M S. Professor of Pathology Calcutta School of Tropical Medicine

peatedly, but nothing abnormal has been found. Her physician is inclined to ascribe the toxemia to a failure of the liver to perform its functions properly, the patient's father having died of hepatic cirrhosis, and there having been great tenderness over the whole liver until after the delivery of the fetus.

THE USE OF ANTHRACITE COAL ASH AS A SURGICAL DRESSING *

W. IRVING CLARK, JR., M.D.
WORCESTER, MASS.

I desire to call attention to a by-product which can be used where frequent dressings are necessary and where the question of expense is of importance. This is the ash of anthracite coal, used in stoves and furnaces all over the country and hence readily obtainable. The ash is neutral in reaction and, on careful analysis, shows no substance which, even if applied to an open wound, would cause irritation.

The ash collected from the furnace is placed in a flour-sifter and thoroughly sifted. It will be found to fall on a sheet of paper as a soft, brownish, floury powder. This is all the preparation necessary.

A piece of old sheet or well-washed linen is cut in rectangular shape and of any desired size. The square is placed on a table and a small pile of the ash is placed in the center. The sheeting or linen is then folded over it as in making a poultice.

Such a pad can be made rapidly, and when examined will be found soft, compact and absorbent. It can be nicely adjusted to any part of the body with adhesive plaster straps.

After an ash pad has been applied to a discharging wound for some time it becomes moulded to the part, as the ash loses its powdery consistency owing to absorption. It has then the consistence of dough and acts as a partial splint, being more comfortable than otherwise.

The ash is very absorbent but does not act as quickly as gauze. It will, however, draw pus up into the pad instead of spreading it over the skin as is so frequently the case in a gauze dressing.

The ash, though aseptic when taken from the furnace has no antiseptic properties. This was proved by tests at the laboratories of the Worcester City Hospital.

Pads, as above described, are intended for use in cases where large gauze dressings are usually applied, namely, suppurating wounds and sinuses. The greater the amount of pus and the more fluid its consistence, the more successful the dressing. In cases where pressure is advisable as in varicose ulcers, they will be found excellent though sometimes a trifle bulky. The discharge of the ulcer is completely absorbed and the pressure prevents local stasis.

Ash pads have been used with success and without discomfort to the patient in discharging sinuses of the neck, chest and abdomen and also in discharging abscesses in various parts of the body.

Experiments with these pads were carried on over a period of three months at Roosevelt Hospital, New York. The only complaints by the surgeons using the pads were that they were heavier than gauze, and that in cases with thick, gummy pus the discharge failed to penetrate the close mesh of the sheet. Since these experiments the pads have been used by the Worcester Society for District Nursing with satisfaction.

* Read before the Worcester County Medical Society.

CONCLUSIONS

1. In cases where gauze can not be obtained or the expense is too great, ash pads form a good substitute.
2. In freely-discharging sinuses and suppurating wounds the discharge will be well taken care of.
3. When the discharge is thick and gummy, or where weight or bulk of dressing is contraindicated, they should not be used.
4. They are particularly applicable to discharging wounds of the axilla, popliteal space and palm of the hand, because they fit snugly and tend to splint the part. They are also well suited to varicose ulcers and discharging sinuses of the abdomen.

FISTULOUS TRACTS, TUBERCULOUS SINUSES AND ABSCESS CAVITIES

A NEW METHOD OF DIAGNOSIS AND TREATMENT BY BISMUTH PASTE

EMIL G. BECK, M.D.
CHICAGO

The new method of diagnosis of the above affections, employed by me since March, 1906, consists in filling the fistula or abscess cavity with a bismuth-vaselin paste and then taking a radiograph of the region affected. Bismuth, as is well known, offers great resistance to the penetration of the *x*-rays and, therefore, is a suitable material for this class of radiographic work. The shadow obtained by its use represents the true picture of the shape and ramifications of these cavities within the tissues. In some instances the most surprising and unexpected findings are detected in this way. This method of diagnosis is superior to the methods now in vogue, such as the probe, the injection of colored fluids or peroxid of hydrogen.

These radiographs have shown why some patients have not been cured even after several operations. They demonstrated the uselessness of an operation which does not remove every part of the fistulous tract. A subsequent operation done under the guidance of the skiagraph has, as a rule, proved successful. Therefore, the skiagraph has proved indispensable in the treatment of fistulous tracts.

The first case injected for diagnostic purposes suggested the use of this method of treatment, the injection of liquefied bismuth-vaselin paste proving valuable not only for diagnostic purposes, but also for curative purposes. After one injection of the bismuth paste the psoas abscess fistula (Fig. 1) which had existed nearly two years, closed up entirely and has remained so. Similar results followed in other cases.

CASE 1.—Miss A. D., 4 years old, presented herself March, 1906, with a fistula resulting from a psoas abscess which had discharged pus for nearly two years, and required daily dressing. Bismuth injection for diagnosis was made April 23, 1906. The skiagraph (Fig. 1) demonstrates that the fistula extends from Scarpa's triangle along the psoas muscle up to the junction of the second and third lumbar vertebræ. There the bismuth fills out a space about three-quarters of an inch long and about one and one-quarter inches wide, right in front of the second and third lumbar vertebræ. A small cavity the size of a hazelnut is on the opposite side of the vertebral column.

The parents returned a few days later stating that for the first time in two years the fistula stopped discharging pus. Two months later the fistula still was closed and the child had no symptoms which would indicate retention of pus. Another skiagraph was made and we found that the bismuth had disappeared. It had probably been absorbed, because the parents

Wright remarks "If we, as a profession, condemn consultation by correspondence on the ground that a trustworthy opinion cannot be based upon medical data furnished by an ignorant patient, how then shall we refrain from condemning the system by which a medical man who is ignorant of bacteriology selects the bacteriological data upon which a diagnosis is to be based" and upon which a bacterial vaccine is to be prepared? Sometimes bacteriological diagnosis is straightforward, the isolation for instance of a staphylococcus from a case of carbuncle, of a causative streptococcus in a septicæmia, of a Shiga or Flexner type of organism in bacillary dysentery Sometimes bacteriological diagnosis is exceedingly difficult and merely saprophytic organisms are mistaken for pathogenic ones and patients submitted to prolonged courses of different vaccines in turn in the hope that one or other will hit the mark Not infrequently the organisms are living in reality outside the body and are inaccessible to antibodies circulating in the body fluids Thus Sir St Clair Thomson complains of the number of cases of diseases of the accessory sinuses treated with vaccines when minor surgical measures will give immediate relief Vaccines will not remove dead bone and they have little chance in locked-up collections of pus "Patients cannot afford to keep a medical gardener permanently to look after their nasal flora what they want is a plumber who will put the drainage right with a greater chance of permanency"

In reality every patient treated with an autogenous, or even with a stock vaccine, should be considered as an individual and personal problem for the medical attendant Preliminary measures are often necessary, rest and dieting in bacillary dysentery, removal of necrotic tissue and liberation of pus, in acne, for instance, the use of soap spirit lotions to remove the fatty accumulations in the sebaceous ducts and of resorcin or salicylates to cause slight desquamation The first dose of a vaccine is, of necessity, an experiment, as not even a preliminary test on animals will give certain information as to what amount of reaction to expect Intervals between inoculations, dosage, and effects of the treatment must be carefully watched and estimated for each case individually Vaccines are not a substitute for medicine and surgery, but used with proper skill and caution, and, above all, used by medical men who will spare neither time nor trouble over individual cases, they are a most valuable line of treatment in certain classes of diseases In the acute infections such as cerebro-spinal fever and lobar pneumonia the time available is too short for immunisation In sub-acute infections such as the enteric fevers they may be used judiciously and often help to alleviate symptoms and hasten convalescence, but they cannot effect any immediate cure In tuberculosis the use of tuberculin of any type must be most carefully controlled and most judiciously administered In the more chronic type of infections is the widest field for vaccine therapy Even here however we must make certain that the antibodies produced in response to immunisation will find access to the sites of disease, and that dense scar tissue or purulent membranes do not prevent the passage of fluids

Partly, perhaps, the reasons for the present day wholesale and indiscriminate use of what is, in reality, a most valuable and important method of treatment, lies in our ignorance of the true principles of immunity Apparently no specialist on the subject can explain himself in anything less than a 350 page textbook, and even after the perusal of such a tome the average practitioner is wont to understand less than when he started We are accustomed, for instance, to associate syphilis with a deflection of complement and to estimate its cure in terms of restoration of complement, but what complement is, and whether complements are single or multiple we do not know A guinea pig's serum is rich in complement, when the animal is bled the quantity of complement falls, yet no laboratory worker would suspect a de-complemented guinea pig of syphilis Present-day theories of immunity resemble some gorgeous Chinese pagoda, hyper-intricate in design but with uncertain foundations The germ theory of diseases has led us to concentrate our activities rather on the discovery of the causative organisms of different diseases than on the study of the exact mechanisms by which such micro-organisms produce the symptoms associated with their infections Our knowledge of toxins and especially of the mechanisms of their action is still very limited It is in this special line that further investigation is especially

fourth injection was made with difficulty The fistulas remained healed, the boy became stronger and gained in weight, and the pain disappeared, so that he could discard his crutches, which he had used for seven years

CASE 3—H A, 10 years old, clerk, with good family and personal history, was taken sick in January, 1907, with an attack of muscular rheumatism and bronchitis Pleurisy, with effusion and empyema followed March 19, 1907, two ribs were resected, the pus was evacuated, and drainage established The wound closed up in two weeks, but reopened later and discharged a dark green pus of a very fetid odor

We left out all drainage and injected the cavity daily with the bismuth vaselin paste The pus gradually diminished in quantity After ten injections the wound ceased to discharge any pus and remained dry for three days Suspecting retention of pus, I inserted a rubber tube, which passed in with some difficulty Then I ordered the patient to close his mouth and nostrils and distend his lungs as much as possible This brought out the material in a semi liquid state which hardened immediately in the basin No pus followed after all the material was forced out

This incident indicated to me that the body temperature kept the bismuth vaselin in a liquid state, and I therefore concluded to add wax and paraffin to it This was done January 10, and the skiagraph shows that the cavity is nearly obliterated by the paste (Fig 2) The fistula closed up entirely and no unpleasant symptom followed, except that during a coughing spell some of the injected material was coughed up

CASE 4—Miss M G, 21 years of age, was well until 6 years of age At the age of 6 she had a pain in her right knee, which was considered to be a growing pain It was treated with liniments At the age of 7 Dr Godfries punctured the hip joint and found thick pus She was then operated on by Dr A T Buckman for tubercular hip-joint disease The wound continued to discharge and the dressing was so painful that often an anesthetic was required during this procedure One half year later Dr Godfries removed the head of the femur Since then thirteen other operations were performed at intervals of six months The last operation was performed by the late Professor Senn, June 1907 The acetabulum was curetted and all necrotic bones and granulations were removed, but the fistula continued to discharge small quantities of pus, which required dressing

Dec 10, 1907, she came to me for treatment. The radiograph (Fig 3) shows that the fistula originated in the acetabulum The paste was injected every two to three days, and a 1 per cent formalin solution was added After ten injections the fistula ceased discharging The next injection was made with great difficulty and only a very limited quantity of the paste would penetrate, showing that the fistula was ready to close

CASE 5—E S, aged 21, parents both healthy At the age of 4 an abscess developed in his left knee, which ruptured spontaneously and a fistula remained. The physician in attendance must have discovered Pott's disease, since he put on a plaster corset, and later a brace At the age of 7, two abscesses ruptured one on the left side of his back and the other around the left hip Operations were then performed from time to time fifteen in all some of them quite extensive, with the final result that eight fistulas remained In this condition he presented himself for treatment in April, 1906 The radiograph (Fig 4) shows the enormous network of sinuses extending from the lumbar vertebra down to the knees A surgical procedure was impossible on account of the poor physical condition of the patient The boy was put on tonics and returned Sept 12 1907 for treatment

We began with injections of bismuth and according to the radiographs subsequently taken we find that two fistulas had healed and six remained discharging One of these, which opens on the sacrum discharged fecal material for about three weeks but this has now ceased The fistulas remaining originate in osteomyelitic bone probably, with sequestra, and inasmuch as a surgical operation is now out of the question, we will continue with bismuth injections The boy is in better physical condition than he has been for several years What the final result will be is difficult to say

CASE 6—Miss E S, 18 years old, has had the usual diseases of childhood, but no evidences of tuberculosis In 1904 she developed an abscess in the region of her right hip It was incised and drained, but showed no tendency to heal Temperature varied from normal to 104, pulse, 140 Fistula resulted and discharged until May, 1906, when she returned for further treatment. The sinus was about four inches deep, passing internally over the crest of the ilium, discharge slight No skiagraph was taken An operation was advised and performed by Dr Carl Beck, May 19, 1906 The sinus was opened freely and several pockets were exposed and curetted, but no necrosis of bone was discovered Wound was dressed daily, irrigated with sterile water, and peroxid of hydrogen, sometimes iodoform emulsion was injected She left the hospital July 17, 1906, and while she had no fever and had gained in weight, her fistula continued to discharge pus She returned Dec. 4, 1906, with a temperature of 102, pulse, 114

A skiagraph of the pelvis was then taken, after the fistula was injected with bismuth paste (Fig 5) It demonstrated the network of sinuses present, and showed the uselessness of an operation which does not explore every recess of the fistulous tract An extensive exploration of all sinuses was performed December 12, and every sinus was scraped and packed with gauze. Temperature remained normal after operation The wounds healed very rapidly, and bismuth paste was injected for a short time into the closing wound, and the entire process healed up Patient left the hospital Jan 30, 1907, in first class condition, with fistula healed up for the first time in three years Jan 15, 1908, she was entirely well

CASE 7—A. G, 18 years old, in 1907, developed a mastoiditis on the left side He was operated on and cured Three months later he returned with a mastoiditis on the right side He was again operated on, and also with good results During his stay at the hospital we accidentally discovered that he had a rectal fistula, and on inquiry we found that he had an abscess opened by his physician about three weeks before he entered the hospital After injecting the bismuth paste a radiograph was made Radical operation was performed Nov 30, 1907, in the usual way, by splitting up the fistula into the rectum During the operation I found solidified bismuth paste filling out the deepest part of the fistula This bismuth had been in two weeks, since no injections were made two weeks previous to the operation. He made a splendid recovery

CASE 8—Mr M A., 25 years of age, family and personal history negative In the fall of 1905, he was operated on for acute gangrenous appendicitis, which was followed by a fecal fistula A secondary operation failed to close the fistula Although the fistula discharged very little fecal matter, it discharged pus and gas He was then treated for six months with silver nitrate cauterization, without any material improvement In August, 1906, bismuth paste was injected and this one injection was sufficient to obliterate the fistula The patient presented himself a month ago (one year after the injection) with his fistula still closed

This case demonstrates that, even if the fistula communicates with the intestine, obliteration is possible by means of the bismuth paste injection

CASE 9—Mrs H R., aged 26, was operated on Jan 7, 1907, by Dr Carl Beck for tuberculous kidney The right kidney was removed, it contained a number of abscesses It required a large incision, and the ragged cavity which remained after removal was packed with gauze for drainage After long and tedious treatment, such as irrigation, the patient improved in general health, but the fistula showed no tendency to healing and the patient left the hospital May 22, nearly six months after operation, with very little hope that her fistula would ever close About three months later, when our experiment with bismuth injection became encouraging, we sent for her, intending to try this method The first injection showed that the fistula reached up to the diaphragm, about four and one half inches in length From September 3 until November 13 only five injections were made, and a decided improvement followed Patient, however, did not wish to remain longer at the hospital, and returned once a week for an injection

The case is not yet healed up entirely, since the treatment was carried out with irregularity, sometimes two weeks elapsed

Sastri corroborated Major Sinton's remarks with regard to Mesopotamia Dr Fairley (Bombay) gave his experience of Weil's disease He dwelt upon the intricacy of the problem and the necessity for team work in investigation Colonel Liston in summing up the discussion urged close collaboration between laboratory and clinical workers

Papers by Captain Korke, (Kasauli) Captain Shortt (Kasauli) and Dr Muir (Calcutta) were also read

An Investigation into Filariasis at Puri

By Dr P N Das, FRCSE.,
Civil Surgeon, Puri

(Abstract)

1 CERTAIN aspects of the anatomy and physiology of Micro-Filaria Evidence in support of the probable physiological function of the tongue-like process

2 Effects of injections of solutions of different drugs upon the movements of M F under the cover glass in blood films, Formalin, Tartar Emetic Novarsenobillon, Iodine, etc.

3 Effects of injections under cover glass upon sheathless filaria and upon the developed stages of filaria in preparations of the mosquito's body

4 Mosquito dissections in Puri Jail and Sadar Hospital One filariated female prisoner infected 43 per cent. of the mosquitoes examined in the Jail and transmitted the infection to her fellow prisoner and when removed to hospital infected 32 per cent of the mosquitoes examined, 14 of which revealed advanced stages of development of filaria. The successive stages of metamorphosis of filaria were observed in the mosquitoes fed upon the filariated female prisoner

5 Metamorphosis of filaria in Culex Fatigans—

(1) Discussion of the phenomena observed in 55 positive specimens of mosquito stomach

(2) Description of 13 different stages and discussions of the phenomena observed in the course of the development cycle in 92 positive specimens of mosquito thorax

6 Question of the transmission of the infection from human being to mosquito and from mosquito to human being and of infection in groups of families

7 Question of filarial endemicity in Puri Municipality as determined by —

(1) Mosquito dissection—44 per cent infected

(2) Examination of blood in a group of 118 men 31 per cent. positive

8 Certain aspects of the pathology of the disease Findings from examination of a group of 153 cases in the different stages of filariasis

Periodical filarial fever and the associated pathological conditions in a group of 52 cases Discussion of the prevailing ideas about the pathology of the disease and its bearing upon treatment

9 Question of the incubation period and the seasonal variations in the appearance of M F in the peripheral blood

10 Question of filarial periodicity Diurnal and nocturnal variations Presence of M F in blood during the day in haemolysed and centrifugalised blood (diluted 15 times) peripheral blood films being negative during the day

11 Association of filariasis with ankylostomiasis Mixed helminthic infection in a case Micro-Filaria in blood Ascaris lumbricoides, Ankylostoma, Trichuris Trichiura ova and Strongyloides Larvæ in fæces (Hæmoglobin 10 per cent.)

12 *Treatment of Filariasis*

(i) Filariasis with M F in blood, in cases followed up from 1919 and 1920 Counts in 1921 were 0 or varied from 0 to 5 Discussion of the mode of treatment

(ii) 31 cases of elephantiasis treated in 1921 with marked results and in many cases restoration to normal condition Discussion of treatment. Treatment must be intensive

(iii) 11 cases of periodical filarial fever treated with marked results

13 Discussion of reactionary phenomena after Antimony injections in 110 cases

14 Observations on the criticisms against the usefulness of Antimony injections in Filariasis

Filariasis Research Work carried out in Cuttack from May 1921 to December 1921 By S Sundar Rao, L M P, Darbhanga, Research Scholar, Calcutta School of Tropical Medicine

Already published in the *Indian Medical Gazette* for March 1922

On the Occurrence of Fugitive Swellings on the Extremities and Trunk of Persons Suffering from Filariasis in India

By J W CORNWALL,
LIEUT.-COL., I M S,
and
H M LAFRENAIS,
Military Assistant Surgeon

THIS note is in the nature of a query We have little information to offer but hope that some of the members may be able to supply some facts out of their experience

Fugitive swellings are well known in West Africa associated with Filaria loa They have also been reported from Jamaica and from Fiji in association with F bancrofti Yet we can find no allusion to their occurrence in India and Cruickshank and Wright who investigated filariasis in Cochin observed no condition resembling Calabar swellings We suggest the following train of events —

Fugitive swellings are due to the passage of an adult filaria through peripheral lymphatic vessels where its progress may be obstructed by various causes, such as narrowness of the lymphatic vessels or by injury If the worm succeeds in overcoming the obstruction and passes on, the swelling rapidly subsides, having lasted perhaps only a couple of days If the worm is totally arrested it dies at the spot and is either disintegrated and removed by phagocytes or becomes calcified In such a case the irritation it sets up causes the swelling to last a week or so Ordinarily the process is aseptic being accompanied merely by an accumulation of eosinophile leucocytes in the neighbourhood of the dead worm If, however, the subject has pyogenic organisms in his circulation they may be brought to the spot and an ordinary abscess results, which leads to the discharge of the worm in either a macerated or a calcified condition Probably most of us have seen filarial abscesses, but how many have seen fugitive swellings?

Bahr states that 50 per cent of the people afflicted with filariasis in Fiji suffer from these abscesses Cruickshank and Wright said that filarial abscesses did occur in Cochin but seemed rare It seems to me that as the filarial abscess occurs in India its precursor, the fugitive swelling, must also occur much more frequently, though it seems to have escaped observation Fugitive swellings may occur in persons who show no other sign of filarial disease Patients occasionally give a history of their appearance on the limbs or neck at infrequent and irregular intervals over a number of years, unaccompanied by any other symptom Sometimes they will say that slight fever preceded the appearance of the swelling

We have recently seen one such patient. He was having a course of antirabic inoculations, and a swelling, which he did not make any complaint about, was by chance noticed on the inner side of his left upper arm Examination of his blood late in the evening disclosed a fair number of F bancrofti embryos He stated that he had had several similar swellings on his arms and at the back of his neck during the past ten years,

first four years this child had two plastic operations on his rectum—the formation of an artificial rectum, and closing of a congenital recto vesical fistula. While the result was satisfactory and the boy had control of his rectum it was not considered safe to close up the colostomy. At the age of 7 however, it was decided to close the abdominal opening. This was done in June, 1907 but a small fistula remained for several months. Finally an injection of bismuth paste was made after which the fistula healed and never opened again.

CONCLUSIONS

1. A successful surgical operation on fistulous tracts depends principally on the exact knowledge of the extent and direction of the sinuses before the operation is undertaken.

2. Radiographs taken after the fistulas have been injected with bismuth paste show the extent and direction of the fistulous tract.

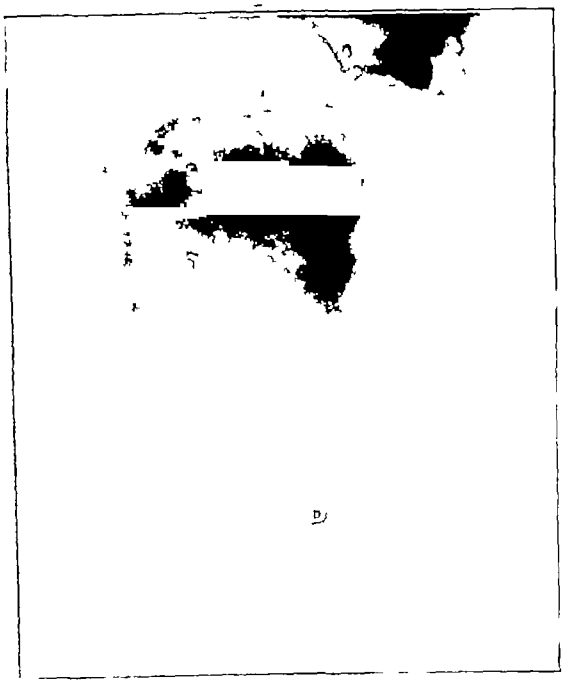


Fig. 7.—Fistulous network of tubercular disease of the iliac bone. A, opening of fistula.

3. Skiagraphs of all fistulous tracts should be taken before an operation is decided on.

4. Fistulous tracts, tuberculous sinuses or abscess cavities including empyema can be cured by injection of bismuth paste.

5. Cavities or fistulas should be as clean and as dry as possible before the injection of bismuth paste.

6. The bismuth paste when mixed with wax or soft paraffin and injected in a liquid state solidifies in the fistula and serves as a framework for new connective tissue. The paste is absorbed and the fistula obliterated.

7. Bismuth paste injection will not heal out sinuses where sequestra are present. Same must be removed before injection.

8. The bismuth paste injections are painless and produce no unpleasant or dangerous symptoms.

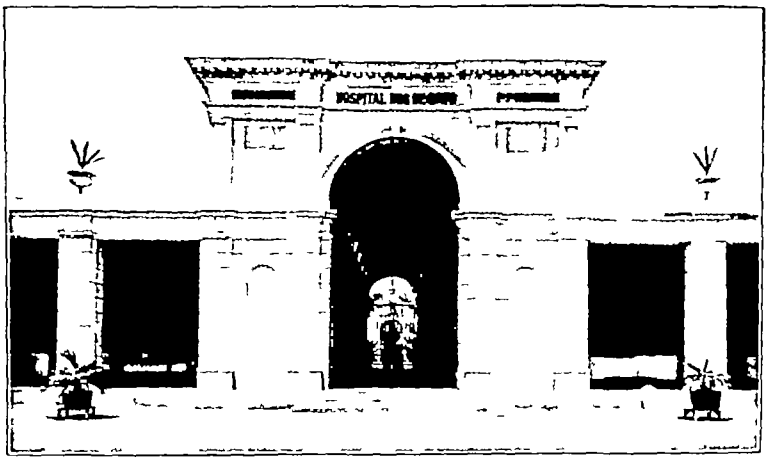


Fig. 46.—Hospital Dos De Mayo (Second of May Hospital) Lima.

Special Article

TRAVEL NOTES FROM SOUTH AMERICA

THE LATE
NICHOLAS SENN, M.D.
CHICAGO

XII. MEDICAL PERU

(*Concluded from page 687.*)

SAINT ANN'S HOSPITAL

The Hospital de Santa Ana is the oldest hospital in America as it was founded in 1549 by Bishop Lanysa the first bishop of Lima. It consists of an immense expanse of one story buildings with open courts and connecting arched passage ways. The central or main part of the building is in the form of a cross consisting of two immense wards with high arched ceilings which meet at the middle, so that from the center of the cross every patient can be seen in what now appears as four wards. The many arched naves and the row of wooden columns running along near the walls, show very plainly that the building was first used as a convent. There

* EDITOR'S NOTE.—This chapter has been delayed by the fact that the photographs were not accessible immediately after Dr. Senn's death. From Peru Dr. Senn returned to the United States by way of Panama. It is a matter of great regret that no notes can be found of any observations made by him in the vicinity of the Panama Canal—in which national undertaking we are all so deeply interested. THE JOURNAL joins with its readers in the regret that this chapter not only ends this series of articles on South America but also is the termination of the Senn Travel Notes which we have been privileged to publish at intervals during a number of years and which have so delighted our readers.



Fig. 47.—Hospital Dos De Mayo (Second of May Hospital) Lima. Inside gallery.

A The examination of the fæces includes —
1 Testing chemically for the presence of occult blood
2 A microscope examination for the finding of ova
3 A cultural method for the finding of the larvæ.
4 The finding of adult hookworms removed by an efficient anthelmintic treatment.
B The examination of blood includes —
1 Variations in the hæmoglobin content.
2 The determination of the relative proportion of cosinophiles to other leucocytes,
3 A serological study with reference to complement deviation

Mass Treatment of Hookworm Infection

By Dr K. S MHASKAR, MA MD,
Ankylostomiasis enquiry, Trichinopoly

Already published in the *Indian Medical Gazette* for June 1922

Discussion

MAJOR-GENERAL GIFFARD (Madras) said —I should like this matter to be looked at from the point of view of the Administrator and not only from that of the research scientist. I congratulate Dr Mhaskar and his collaborator at Trichinopoly on their research which has proved that a single dose of Thymol taken without purgatives has proved to be sufficient to cure an individual of hookworm, and that the old form of treatment which consisted of preliminary purging then thymol, then more purging combined with starvation and rest in bed with the repetition of this process two or three times has been found to be unnecessary and has been abandoned It seems to me than all this elaborate form of diagnosis which Dr Mhaskar has just enumerated might also go the way of the elaborate treatment

Dr Paul and Dr Kendrick have proved that nearly 98 per cent of the population of Southern India are suffering from hookworm It therefore seems to me to be more a matter of giving a dose of anti-hookworm medicine to every individual in this Presidency Since Paul and Kendrick have arrived in India to help us with the treatment of hookworm they have under my advice dealt with the population of 2 jails, the population of certain tea gardens and planters estates They have also dealt with the population of a large cotton mill They are now dealing with the students of the Medical College and I hope that they will go on to deal with the Legislative Council

From an administrative point of view it seems to me that the best thing we can do is to get hold of a cheap thymol on a large commercial scale and give a dose to everybody in the Presidency as it is quite beyond the dreams of practical politics to provide every man woman and child with boots and it is equally impossible to expect all the population of the Presidency to use latrines

One good dose has proved to be sufficient for at least a year Therefore if we are to keep the population of Southern India fit, this dose of thymol will have to be an annual ceremony

Captain Ganguli (Calcutta) said —

In dealing with the value of examination of the occult blood in ankylostomiasis, Dr Mhaskar said that anæmia is due to the continual loss of blood from the injured portions of the gut I don't think that this factor can alone explain the profound anæmia which is seen in ankylostomiasis Some time ago, a belief was held that anæmia is due to the absorption of toxic secretions or excretions of the worms Experiment with extracts of hookworms does not corroborate this view Nowadays some authorities in Calcutta believe that anæmia is mainly due to the septic infection of wounds of the gut caused by the worm

The next point I wish to point out is that a note of warning may be sounded against indiscriminate use of anthelmintics in very weak debilitated and very anæmic kala-azar cases complicated with ankylostomiasis In these cases the kala-azar should be treated first and then when the patient recovers to a sufficient extent the anthelmintics may be tried

Amongst the various anthelmintics, Dr Bentley recommends strongly oil of chenopodium, a pure variety of which can always be obtained from Messrs Parke Davies and Co Besides acting on hookworms, it acts on ascaris as well I might mention here that a trial is being given to carbon tetrachloride (C Cl4) in the Calcutta Tropical School with good result in a few cases

Dr Mhaskar does not think much of Clayton Laynes method of diagnosing ova of hookworm, and says that sand and other coarser particles cannot be washed away from the slide easily, but I may point out that he omits a most important procedure in the technique, *viz*, the removal of coarser particles of the faeces by passing an emulsion of stools through a sieve of fine mesh, containing not less than 100 holes to a square inch This would remove the coarser particles of the stools which interferes with the success of this test

A Simplified Method for the Cultivation of Plasmodium in Vitro

By J A SINTON, VC,
MAJOR IMS
(From the Pasteur Institute, Kasauli)

CULTURAL methods seem to have been neglected in the diagnosis of latent malaria, chiefly because the methods hitherto described were not suitable for routine clinical use

The following method was devised with the idea of getting a more practical method for testing the value of cultures in diagnosis

The chief point in the method is the use of a special tube which can be used both for the defibrination of the blood and for growing the cultures in This tube is made from ordinary glass tubing with a spirit Bunsen burner The blood needed is a few drops from the finger of a malaria patient with parasites in his blood

The special tube consists of two chambers connected by a narrow stem about 2·5 mm wide The upper chamber is shaped like a Wright's capsule and contains a few glass beads to defibrinate the blood The lower chamber is conical with a capillary tube projecting from the base This chamber and the stem act as the culture tube

In using the tube the upper chamber is filled half full of dextrose-ascitic or hydrocele fluid and 5-10 large drops of blood are run in after the fluid The lower chamber is heated and its capillary end is sealed off As the blood is drawn into the upper chamber its capillary end is sealed off The tube is then shaken until the beads have defibrinated the blood which is then shaken into the lower chamber The tube is then sealed off in the flame at the junction of the upper chamber with the connecting stem The lower chamber can now be placed upright in the incubator at 37°C

To examine the culture the upper end of the tube is opened and a little of the surface layer of the deposit of blood cells is withdrawn with a Wright's pipette, and a smear is made and stained The culture tube is immediately resealed in the flame and replaced in the incubator

All the above steps are done with strict aseptic precautions

Some very successful cultures have been obtained by this method

Review of the Position of the Genus Hæmocystidium (Castellani and Willey 1904) with a Description of two new Species

By H E SHORTT,
CAPTAIN, IMS
(From the Central Research Institute, Kasauli)

THIS paper has been designed to collect together the known facts from a variety of sources, as well from my own observations, regarding a genus

Campodomio is director of the hospital and in charge of the medical and ophthalmologic departments, and Dr Ch Milesi is the attending surgeon Two resident house physicians, recent graduates in medicine, each receive a small salary, and are expected to serve for two years Dr Campodomio is an earnest, devoted and progressive physician, who devotes his whole time and services to the practice of his profession He speaks English fluently, and is well posted in English medical literature He has seen a number of cases of the Bolivian disease, which I have described elsewhere,[1] and believe it to be a kind of lupus, but is willing to admit that in many respects it bears no resemblance to that disease In examining the interesting collection of pottery in the Lima Museum, I came across a piece which I am confident was intended to represent a case of Bolivian disease The vase was undoubtedly of great antiquity, and the human face depicted on it showed to perfection the characteristic destruction of the lip and nose, and on what little remained of the lower lip, there was in the center a red spot indicating the existence of the destructive ulcer None of the Lima physicians whom I met claimed ever to have seen cancer or appendicitis in the aborigines

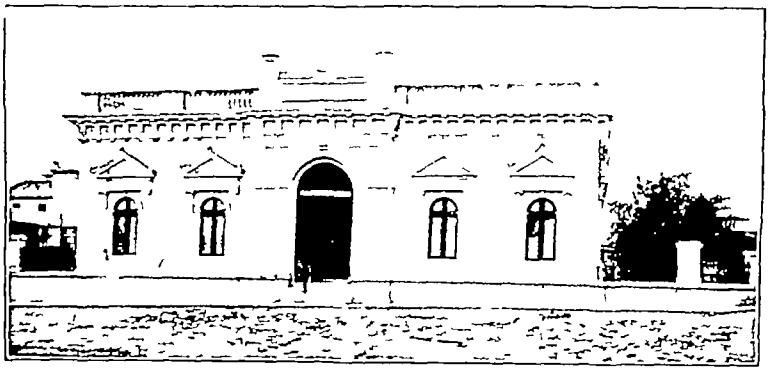


Fig 50 —Vaccine and Serotherapeutic Institute Lima

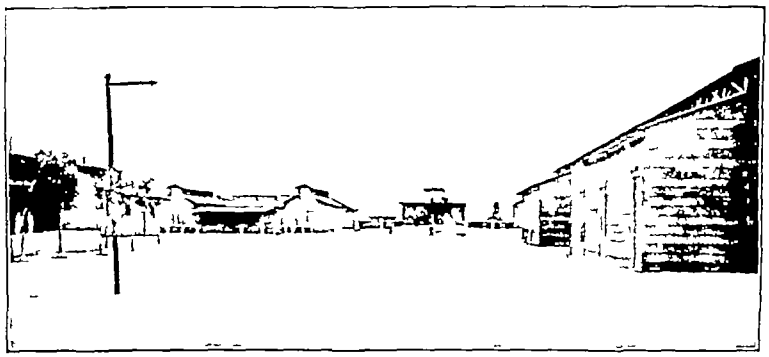


Fig 51 —Isolation hospital for contagious diseases Lima General view

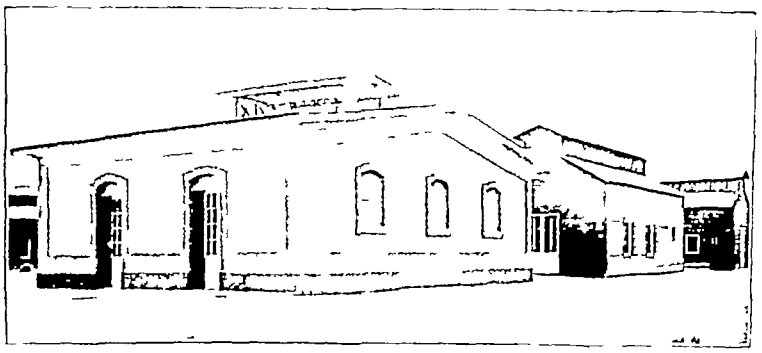


Fig 52 —The lazaretto (pest house) and disinfecting quarters

DR LARRÉ'S PRIVATE CLINIC

Dr Larré a bright young French surgeon, has just completed the building of a small hospital with ten beds at a nexpense of $20 000 This little hospital is perfect in every respect, located on ample grounds outside of the city limits and on one of the suburban tramways He will engage trained female nurses and after the hospital has been fully equipped will find himself surrounded by all modern conveniences, well prepared to perform the most difficult operations, and will have the assurance that his patients will receive the necessary careful post operative treatment

CASA DE SALUD

Two Italian physicians Drs Barazzoni and Vittorelli have built a sanitarium in the beautiful suburb of Bellavista With the aid of government support they intend to start what is so much needed here a training school for female nurses We wish this new enterprise every possible success

LIMA ACADEMY OF MEDICINE

Lima has about 250 practicing physicians including two ladies A physician with an established reputation is paid $2 50 for office consultations and $5 for visits Fees for operations are low, and an income of $1,200 is the lot of but very few The professors are paid $65 a month, and some of them have to depend on this meager salary for a living They must deliver each week three lectures of one hour each

The city has only two medical societies the Sociedad Amante de la Ciencias, a society made up of the students and professors of the medical school, which meets every two months, and in which scientific subjects are discussed, and the Academy of Medicine of Lima, with a membership of about 30 As the latter is the only real medical society in the city, it is easy to see that the mass of the profession is left without any society attractions, or is left to shift for itself This condition is certainly deplorable, as fraternal ties tend to unity of purpose and action

PUBLIC HEALTH

The Public Health Service is now thoroughly organized in Peru, and its administrative management is in the hands of the Direction of Public Health, a new branch office of the Bureau of Fomento, which was created in 1903, having at its disposal the staff and necessary elements for properly and promptly attending to the requirements of this important service in the republic At the head of this institution is the well known sanitarian and hygienist, Dr Julian Arce, to whom the government has wisely entrusted its foundation, and to whose intelligence and constant application is due the rapid progress made in sanitary matters during late years He has a strong support in Dr Casimiro Medina, who stands next to him in the administrative work of the office, and in Dr Francisco Graña, a most capable young physician who takes great interest in everything pertaining to the interests and work of his office The main office of the new Bureau of Health is in the old palace where a series of rooms has been set aside for this purpose

The Direction of Public Health is composed of two sections Hygiene and demography, and its dependencies are the body titular of medical men the sanitary corps of doctors, the midwives and the vaccinators The sanitary section, the vaccination and serotherapeutic institute, the marine lazaretto the Lima Hospital for Contagious Diseases, and all the other lazarettos in the republic

The titulary medical men reside in the capital of each

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the Viper Hospital The mild cases are included in these figures Of the 588 cases 78 died or 13.26 per cent

Woolley again draws attention to "Fever with jaundice cases' under the heading "Malaria in the Andamans' in *The Indian Medical Gazette* of July 1913 He stated that the mortality among these cases is about 40 per cent He drew attention to the fact that when there is little or no malaria in the Settlement these cases do not occur "This being the case" he says "observers naturally find it difficult to relinquish the idea that they are of a malarial or malaria-like nature" He states in a letter to me on the subject that Major Christophers did not find any evidence to support the view that the jaundice was due to malaria in specimens sent to him for examination

While these severe epidemics of jaundice are known to occur in India, often at a particular season of the year when malaria is prevalent, there are undoubtedly other epidemics of jaundice of a mild type, such as those described by Franklin in *The Indian Medical Gazette* of June 1913 among the Kashmir Imperial Service Troops at Gilgit. He gives notes of twenty-six cases with no deaths between 2nd September and 27th December 1912, and by Hodge among the 26th Punjabis at Samara on the N-W F P where he records 31 cases with no deaths Similar epidemics of mild jaundice have been described in England like Dr Plowright's 34 cases at Kings Lynn in 1896, Dr Whitaker's 14 cases in three villages two or three miles apart between November 1910 and May 1911, Dr Vaisey's 25 cases in a village of 300 inhabitants between November and January Dr Hallowes 12 cases all mild with albumen in the urine in December 1910

Castellani and Chalmers distinguish between two types of epidemic jaundice, Icterus castrensis gravis which they regard as the same as Weil's disease and Icterus castrensis levis or camp jaundice The former they say occurs suddenly, is very severe and is of short duration, while the latter is slow in onset, mild in symptoms, and is not associated with fever and hæmorrhages

Now those who have experience of either Icterohæmorrhagic jaundice or Yellow Fever are unable to make any marked distinction between the two diseases Ryle for example in the *Quarterly Journal of Medicine* January 1921, writes except in its greater severity and the tendency to gastric hæmorrhage yellow fever is clinically the same disease as spirochætosis,' and he notes since the discovery of the spirochæte of yellow fever by Noguchi "except in mode of transmission the two diseases would seem to be almost identical Indeed it may even be that yellow fever was originally merely spirochætosis ictero-hæmorrhagica passed by Stegomyia from rodent to man" In another place Ryle draws attention to the resemblance between malignant jaundice and acute yellow atrophy of the liver He writes "in the later phases of the grave cases and especially of those which have a fatal issue after apyrexial period, the similarity to icterus gravis or acute yellow atrophy must be so close that, lacking a clear history or other coincident cases, a clinical differentiation would be almost impossible"

Even Noguchi, who has done more towards the elucidation of the ætiology of yellow fever and spirochætosis in general than any other worker, states that "it seems probable that leptospira icteroides and leptospira ictero-hæmorrhagica are closely allied perhaps the difference between the two may amount to that between sub species or races' From the clinical point of view he notes that "icteroides produces chiefly icterus and nephritis and ictero hæmorrhagica hæmorrhage and nephritis, the icterus being less and the hæmorrhage more prominent in the evolution of the latter infection'

It must be remembered, however that Stokes and Ryle showed that there were cases of spirochætosis ictero hæmorragica, *sine* ictero and it is also probable that there may be cases of yellow fever without jaundice. Noguchi admits that jaundice "may be so slight that careful attention alone will reveal its presence" and again discussing experimental yellow fever in guinea pigs he writes "a certain proportion of the animals inoculated with a virulent strain of the virus shows a temporary febrile reaction and albuminuria with a few casts Jaundice is slightly noticeable in the ears (if the animal is white or light in colour) and scleras, but it is sometimes apparently absent . As in yellow fever in man, therefore, so in the experimental condition in guinea pigs, there apparently exist varying grades of severity of infection according to the individual resistance to the same virus"

The difficulty in diagnosing yellow fever is increased when one reads such a book on the subject as that of Sir Rupert Boyce Chapter VII of that work is devoted to various types of yellow fever "those forms, more especially, which often pass unrecognised because of the mildness of their symptoms, but which nevertheless are the means of keeping up a constant infection and are the source of the more typical severe forms of fever which attacks non-immunes and new arrivals" He points out that "bilious remittent fever may also and does, just as inflammatory fever include a proportion of malaria cases, but it undoubtedly has very frequently been used as another name for yellow fever"

Boyce quotes the great authority on yellow fever, Carroll, who writes as follows "We know as a matter of fact, that here in the United States, yellow fever has been time and time again called bilious remittent fever, until the occurrence of a number of fatal cases with black vomit proclaimed the true nature of the disease," and again Carroll writes in another place "recent experiments have shown that genuine yellow fever may be so mild in character that no man, no matter how extensive his experience may have been, would dare to diagnose it as such, unless he knew the disease to be prevailing at the time" Elsewhere he states "bilious remittent fevers, of short duration, occurring on vessels, in seaport towns, and along the lines of travel from them are closely related to, and probably identical with, yellow fever" Boyce points out that in West Africa "very often an outbreak of yellow fever was preceded by an outbreak of remittent and bilious remittent fevers"

I may here make passing reference to the discovery of *Leptospira hebdomadis* the causative agent of the seven, day fever of Japan (Narukayami) by Ido and others, and draw attention to the fact, noticed in *The Indian Medical Gazette* of August last, that Megaw, ten years ago, pointed out that it was not possible to distinguish between mild yellow fever and dengue by the symptoms shown by the patients Bear also in mind that it has been shown by Cleland and Bradley that dengue is transmitted by stegomyia mosquitos

With these facts before us, I would ask you to consider whether we have or have not yellow Fever already present in India This is of importance, because we are making great preparations to exclude yellow fever from the country directing our energies, not so much against the prevalence of stegomyia mosquitos, as towards the erection of costly quarantine stations

I have shown that epidemics of jaundice associated with a considerable mortality have occurred in India, in Bombay and in the Andaman Islands for example that while these epidemics may have been epidemics of Weil's disease, yet no person, so far as I am aware, has isolated and proved that the leptospira found in these epidemics were ictero-hæmorrhagica and not icteroides It is evident that recent research in connection with spirochætes has opened out a wide field for research in India and my purpose in introducing this discussion will have been fulfilled if I have succeeded in drawing attention to the subject

Discussion on Jaundice.

Lieutenant-Colonel Elwes (Madras) said that in Madras he had not seen the type of case associated with jaundice referred to by Col Liston In Ootacamund he had had a single experience of a small epidemic which occurred in two or three families, about 15 cases in all, but there was no fatality

injection, taste the "carbolic acid" (trikresol) with which the serum was preserved

The injection was performed with the usual technic, the site of that particular one being the interscapular region, with the patient sitting in bed. I had turned to hand the empty syringe to the nurse when the patient exclaimed: "Doctor, what was in that medicine?" "Do you taste the carbolic acid?" I inquired, thinking this the source of complaint. The woman's face wore a very anxious expression as she replied "No," and then with the remarks "I feel so queer! What is the matter? I can not breathe! Oh, Doctor, you have given me the wrong medicine! I am dying!" her previously pallid face became suffused, and she fell backward on the bed, breathless.

At once there appeared a most pronounced congestion of all the exposed cutaneous surfaces, and an enormous general edema by which the head, arms and legs were swollen to much increased size, completely distorting the features and causing to be overwhelmed the previously existing swellings of the affected joints. It seemed that the hands and feet were swollen to twice their size, and with the purplish congestion of the skin the woman's appearance reminded me forcibly of the bloated cadaver of a drowned person. I could feel a feeble, rapid pulse, but no effort at respiration was evident. After an interval that seemed measured by several minutes, but which, of course, was less, a gasping attempt at inspiration occurred, accompanied by a rapid recession of the edema and cyanosis, to give way to a ghastly pallor. After a few ineffectual attempts, spasmodic breathing was resumed, to be followed by moaning, inarticulate efforts at speech, opening of the eyes and gradual return of consciousness.

As soon as the woman could express herself she complained of chilliness, and speedily most severe rigors occurred. These chills, which were not allayed by artificial heat, lasted for about fifteen minutes, and while they were in progress the patient vomited several times. Following the chills the cutaneous surface took on a bright red hue and hyperpyrexia gradually developed, reaching a maximum temperature of 103 F. in about three hours. By the next morning all unpleasant symptoms had subsided, the woman expressed herself as feeling perfectly well, and for a week or two following this incident the rheumatic joints were much more comfortable.[3] Fears were entertained about the fate of the child *in utero*, but the subsequent birth of a perfectly normal infant showed that these were groundless.

In the second patient, an adult man reporting to my office for treatment, the cumulative reaction was not so severe as that just described, principally differing in that the apnea was less prolonged and consciousness not entirely lost. Further, a longer interval perhaps two or three minutes, elapsed before the patient complained of feeling ill. But the same sudden generalized edema and cyanosis manifested themselves, with difficult breathing and a choking sensation, followed by rapid disappearance of the edema and extreme pallor with chills and vomiting, and later by fever. Here, too, a marked relief of the rheumatic symptoms followed the serum reaction. Some ten injections of serum, first at intervals of three days, then two to four days apart, and in doses of 5 c.c. or 10 c.c., had been administered prior to the occasion in question, with no further accelerated reaction than a slight swelling and itching at the injection site, persisting for a day or two.

3. I might parenthetically add my belief that the occasional good results which follow the injection of horse serum in chronic rheumatism are to be ascribed to the periodic hyperemia and edema produced in the affected joints as a part of the "accelerated serum reaction."

SOME NEW STAINING METHODS OF WIDE APPLICABILITY

INCLUDING A RAPID DIFFERENTIAL STAIN FOR ELASTIC TISSUE.

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BOSTON

Of the numerous staining methods devised for demonstrating elastic tissue, the method of Weigert has given the most satisfactory results. Weigert's solution, however, stains connective tissue diffusely, and thus does not give the sharpest possible differentiation. It has the disadvantages also of staining celloidin deeply, of not permitting the use of satisfactory counter stains, and of giving especially unsatisfactory results when used on tissues fixed in Zenker's fluid. The method here to be described is free from these disadvantages, and gives an intense stain of even the finest elastic fibrils. The method gives good results after any of the following fixatives, namely, Zenker's fluid, formaldehyd, formaldehyd followed by Weigert's mordant for myelin sheaths, formaldehyd followed by Marchi's fluid and fairly satisfactory results may be obtained also with tissues decalcified in nitric acid. In the case of fixation in Zenker's fluid, tissues or sections should not be treated with iodin solution before staining. This, moreover, is unnecessary since mercurial precipitates are removed by the staining fluid.

RAPID DIFFERENTIAL ELASTIC TISSUE STAIN

The staining fluid is made as follows:

Hematoxylin crystals	1 gm.
Absolute alcohol	20 c.c.
Dissolve in test tube by aid of heat, filter, and add in order given	
Aqueous solution (10 per cent.) of ferric chlorid	8 c.c.
Concentrated Lugol's solution (iodin, 2, potassium iodid, 4, water, 100)	8 c.c.

This solution may be used repeatedly and seems to keep indefinitely.

Sections are immersed in the staining fluid for five minutes or longer, and are then differentiated in a 2 per cent. aqueous solution of ferric chlorid. The differentiation requires only a few seconds, and is completed when the connective tissue is observed to take on the color of Lugol's solution. During the process the sections should be kept in motion. In the case of celloidin sections, it is important, of course, to straighten out any edges that are folded over. To observe the stages in the differentiation, the sections may be examined in water under a low magnification. If the differentiation has been carried too far, the sections may be restained, provided that they have not been treated with alcohol.

The sections are now washed in water, followed by 95 per cent. alcohol to remove the stain of the Lugol's solution, and then are allowed to remain in water five minutes or longer. They are then counterstained in a two-tenths per cent. solution of water-soluble eosin in 80 per cent. alcohol, passed through alcohol, oil of origanum, and mounted in balsam.

The microscopical appearances were described in detail and some sections shown on the screen of a minute conjunctival polypus 2 m m by 1 m m A reference was made to the probable mode of infection Up to the present animal inoculation has proved negative Patton and Ingram tried planting small portions of polypi subcutaneously with negative results Wright and Cunningham placed small portions of growth into sub-conjunctival pockets in monkeys and also tried vaccination on the penis, and nasal mucosa of monkeys with emulsion of fresh polypus and injection of similar emulsion into the lung These experiments were unsuccessful up to the time of writing The above experiments apparently assumed that direct transfer was possible The reader was of the opinion that direct transfer from man to man is the mode of transmission Wright considered that the position of the local lesion suggests dust or water transmission and that the spores when shed probably have an extra-human life cycle before gaining access to the human mucosa.

In this connection it is interesting to note —

1 So far no case has been described in a female

2 In the Madras Presidency individuals from the West Coast appear to be more frequently affected

3 The majority of sufferers are boys and young adults the highest incidence being between 10 to 20 and 20 to 30

Treatment

Up to recently removal of the growths was the method productive of the greatest success When the growth was localised and easily accessible as in the conjunctiva, this was successful In the nose, however, recurrence was the rule Kirkpatrick advocated the use of quinine solution in treating conjunctival cases Wright tried the efficacy of Quinine Bi-hydrochloride in 1 per cent and 2 per cent watery solution on a conjunctival polypus without success He found in one case that 2 per cent Tartar Emetic dropped into the eye-lid caused the disappearance of the polypi in two months Presumably the tartarated antimony destroyed the parasite This observation needs confirmation

Is Keratomalacia a Deficiency Disease? If so what is the Nature of the Deficiency

BY MAJOR R E WRIGHT, I M S

THE clinical appearances were first described in detail Briefly these consist in (*a*) eye changes and (*b*) general constitutional changes In the eye one may find a smoky discolouration of the conjunctiva with a greasy dryness and concentric rippling sometimes spoken of as Xerophthalmia. The cornea may show anything from the bluish haze of a diffused infiltration up to dense opaque interstitial keratitis, sometimes progressing to necrosis and ulceration This is Keratomalacia from which the condition derives its most common name In addition there may be night-blindness The rate of occurrence amongst the out patients at the Government Ophthalmic Hospital, Madras was about 0 4 per cent. The tables give age distribution and frequency of prominent symptoms in 80 cases observed in 1921

TABLE I

Age, Years	Male	Female	TOTAL
5 and under	27	21	48
5 to 15	9	10	19
Over 15	9	4	13
			80

TABLE II

Condition	Frequency	Condition	Frequency
Liver		Night blindness	12
Enlarged	7	Cornea	
Palpable	23	Clear	1
Not palpable	34	Steamy	11
Definitely small	2	Deep infiltration	22
Not noted	14	Ulcerated	27
Jaundice	7	Not noted	9
General appearance		Conjunctiva	
Fat and healthy	8	Epithelial Xerosis only	8
Thin not wasted	28	Xerosis with a smoky conjunctiva	61
Marasmic	41	Apparently normal	11

Associated with the eye changes are (*b*) marasmus, intestinal disease, respiratory tract disease, liver disease (atrophic and hypertrophic with or without jaundice) and trophic changes in skin and mucous membranes and bleaching of the hair Cases which showed night-blindness alone or Xerophthalmia of a mild degree (referred to as Xerosis), were not considered in the above figures There appears to be some connection between night-blindness with or without Keratomalacia and night-blindness retinitis, whether of the pigmentosis ' "sine pigmento" or "punctata albescens" variety It may be that all these cases have causative features in common The eye appearances were demonstrated by means of water-coloured paintings

Is Keratomalacia due to deficiency in fat soluble A ?

THE experimental production of corneal necrosis by deprivation of Fat soluble A suggests that this food factor plays an important part in the human condition It was not considered that the clinical condition was analogous to the experimental Keratomalacia of animals In support of this view the different eye signs and symptoms in the two cases were quoted and the failure of human cases to respond rapidly to the administration of Fat soluble, A Experimental observers lay stress on inflammatory conditions of the eye Human Keratomalacia is a non-inflammatory condition More accurate descriptions of the exact eye signs and symptoms in experimental Keratomalacia are required In the experimental animals, according to Stephenson and Clarke the determining factor of corneal implication appears to be bacterial invasion and the corneal condition an accident of infection in a predisposed eye Just as in experimental work comparatively few of those who are predisposed to Keratomalacia actually develop corneal symptoms, but bacterial invasion is not the determining factor

The keratitis of clinical Keratomalacia starts in the depth of the cornea while still the epithelium and Bowman's membrane are intact, just as in certain cases of syphilis or tuberculosis the condition may run on as an interstitial keratitis leading to dense leucomata without ulceration Secondly infection by the flora of the conjunctival sac does not occur until the epithelium and Bowman's membrane are damaged Experiments were carried out in the Government Ophthalmic Hospital with the idea of testing the value of introducing into the diet liberal amounts of *ghee* fruit-juice meat-juice, and whole egg without cod liver oil This did not produce as good or better results than cod liver oil alone and neither produced the rapid effects obtainable in experimental animals *It may be the Fat soluble A in cod liver oil which is all important* Fresh liver feeding has been practised with success on the West Coast for years in this condition No matter what the determining factor in Kerato-

sitting posture, pinched facies, and marked cyanosis from his inability to breathe. He was conscious, yet unable to talk because of the intense intra abdominal pressure. The abdominal distension was something unusual. The abdomen was drum like, and the abdominal wall so stretched that it actually felt thin. The labored respirations, from upward pressure on the diaphragm, made it possible to see a retraction of the chest wall at the costal insertions of the diaphragm. The thoracic percussion note was tympanitic as far as the third rib, above which it was hyperresonant. There was no dulness over the front or back parts of the abdomen, nor any evidence of external injury. The abdomen was so tight and tender that it was impossible, as it was impractical, to make a satisfactory examination.

The rectum felt unusually long, was patulous and empty. The patient was unable to pass flatus. There was neither blood nor a blood tinged discharge coming from the rectum. At this point it is well to say that on entering the hospital the patient was given a soap-suds enema, the greater part of which was retained. The temperature was 96.8 per mouth, the pulse, 120. He complained of air hunger and excruciating pain with the occurrence of each peristaltic wave. He vomited 500 c.c. of an offensive, greenish-colored material, was constantly nauseated, yet unable to eructate gas. A diagnosis of rupture of the bowel was made. He was given one grain and a quarter of morphin the first two hours after the accident, and there followed an unavoidable delay (because of his religion), so that it was 9 o'clock before an operation was undertaken.

Operation.—With the assistance of Dr. Blanchard, I opened the abdomen through the left rectus muscle below the umbilicus. On knicking the peritoneum the escaping compressed air and intestinal gas tore the peritoneum for a distance of three inches. The force was such as to startle those present at the operation. The intestines were found collapsed while the stomach was distended and floated low in the abdominal cavity. It was noted that the intestines especially the small bowel, together with the mesentery, were covered with hemorrhagic spots varying in size from a millet seed to that of a split pea. The abdominal contents were deeply injected. The intestines were eviscerated and inspected. The pelvic cavity contained a large amount of blood, feces and the enema. Several loops of the ileum were covered with a greenish exudate.

Site of Intestinal Laceration.—On drawing the sigmoid flexure upward and to the right, a six inch tear was found extending from the (constricted) junction of the rectum and sigmoid (in front of the body of the third sacral vertebra), into and along the convex border of the sigmoid. The laceration took an oblique course, it was clean cut through the mucous and muscular coats of the bowel, while the peritoneum was ribboned throughout the entire length of the tear. The position of the laceration, the first three inches being in virtually a fixed part of gut and an unusually deep pelvis, made the operation difficult. The intestinal tear was closed with a No. 1 chromicized catgut and enforced with several Lembert sutures. The abdomen was flushed with two gallons of warm normal salt solution, and the toilet of the peritoneum was completed by introducing a large rubber tube through the median incision for drainage. The patient was returned to bed with a pulse of 120 and placed in the Fowler position.

Postoperative Treatment.—The patient received the customary subcutaneous stimulants and reacted well. He was not transfused. It was necessary to give two doses of morphin during the first six hours. Gastric lavage was used immediately after the operation, when the stomach was relieved of its fluid contents and gas. Lavage was again practiced for distension at the end of twelve hours. He was given fluids at this time. The kidneys were active, however, no flatus had been passed per rectum and on the second day tympanitis became troublesome. There was every evidence of a general peritonitis, the temperature was 100.5 F., the pulse 100. The nausea and abdominal distress were not relieved by lavage and he could retain no liquids. On the morning of the third day he vomited a large quantity of fecal material and continued to vomit at irregular intervals until noon. The pulse and temperature remained unchanged.

At this point it is my duty to say that I did not think it advisable to make a colostomy at the time of suturing the intestine, not alone for the reason that the descending colon was fixed, but because it was observed that when the sigmoid was dropped into the pelvis the site of the injury was well protected by direct contact with serous membrane. A colostomy would have suspended the sigmoid and permitted nothing to protect the point of leakage. Resection of the sigmoid was not considered.

Colostomy.—Three days after the closure of the intestinal tear it was evident that the obstruction was complete, he had passed no gas per rectum, and we considered it dangerous to pass a rectal tube or introduce fluids into the rectum. May 31, 1907, I made a left inguinal colostomy. The muscles were split in the usual way, and the highest part of the sigmoid pulled through and fixed (Maydl's method) with the object of making a permanent anus. The sigmoid was incised, and a long, large-sized rubber tube introduced into the descending colon and securely fastened with a purse string suture of silk. The operation consumed 20 minutes, and the patient was returned to bed with practically no shock. The tube commenced to drain after fourteen hours, and with the passing of an immense quantity of fecal material the patient showed a marked improvement. The peritonitis subsided after a few days, nourishment was administered without disturbance, and at the end of ten days the pulse and temperature reached the normal, even though the median drainage tube discharged large quantities of pus from the pelvis. The patient's convalescence seemed well established, when three weeks after the colostomy, he developed a right sided pleurisy, and a week later presented the physical signs of an effusion. The daily temperature fluctuated between normal and 103 F. July 6, 1907, Dr. J. D. Dunham, Jr., saw him in consultation, and the diagnosis of empyema was confirmed by the withdrawal of 500 c.c. of pus from the pleural cavity.

Resection of Ribs.—July 8, 1907, I removed a part of the eighth and ninth ribs on a line with the inferior angle of the scapula and drained the pleural cavity with two large sized rubber tubes. The patient's condition at this time was bad, he was emaciated, had bed sores and was profoundly septic. However, he commenced to improve, and under forced feeding, tonic treatment and good nursing was able to leave the hospital (on foot) Aug. 30, 1907, three months after his accident.

Six weeks later the patient walked to my office, he has gained 30 pounds since leaving the hospital. However, he had an annoying cough, expectorated large quantities of purulent material, and complained of the discharging thoracic fistula. He had fair control of the artificial anus. No tubercle bacilli were found on repeated examinations of the sputum. The blood count at this time was 4,000,000 red cells, 14,500 white cells, and the hemoglobin index was 85. He was given a creosote preparation, and the cough stopped within a week. The fistula closed ten days later. The base of the right lung was then, and is now, collapsed. At the present time he complains of no pleuritic (adhesion) pains, nor of respiratory embarrassment.

Oct. 12, 1907, Dr. Wells Teachnor made a thorough examination of the rectum and sigmoid, using the colonoscope not only in the usual manner, but through the colostomy opening directly into the sigmoid. Dr. Teachnor was convinced of an observation previously made by myself, namely, that with a rectal tube introduced through the colostomy opening into the sigmoid it was impossible to force water, under considerable pressure, into the rectum, yet with the same tube introduced into the rectum, and under ordinary pressure, a good sized stream emptied itself through the bowel onto the abdomen. This was tried many times, with the patient in every conceivable position, without success. The fingers could be made to touch when introduced into the rectum from below and the sigmoid above the intestine intervening. Seemingly, the first few inches of the sigmoid were adherent to the left of the sacrum. No mass could be outlined.

Laparotomy for Ventral Hernia.—Dec. 3, 1907, the patient consulted me for relief from a constant backache. An examination disclosed a small sized ventral hernia at the site of the (median) drainage tube. The protrusion was not large, was reducible, yet would account for the mesenteric pull and the

Attempts at the cutaneous cultivation *in vivo* of vaccine virus free from bacteria were also made The calves were inoculated at intervals of a week with polyvalent vaccines of bacterial organisms found growing in the lymph vesicles After a course of these inoculations, the animals were vaccinated as usual 65 milligrammes of the resulting lymph when plated on agar showed 25 to 1,000 colonies as contrasted with 100 000 or more in the same amount of lymph from uninoculated animals Good results were obtained when three injections were given and the strength of each dose of the polyvalent bacterial vaccine was 1 000 millions of bacteria per c c., for every 50 lbs, of body-weight of vaccinifer

Noguchi's experiments on the intra-testicular cultivation of vaccine virus *in vivo* free from bacteria were repeated Preliminary results showed that vaccine virus is capable of growing in the testicular parenchyma of rabbits, and multiplying indefinitely in a pure state The macroscopic inflammatory reactions in the testis noted by Noguchi, were found absent in the animals inoculated at Belgaum The rabbit testicular vaccine lymph presents the same characteristic reaction on the skin and had an immunising power similar to that of lymph produced in the ordinary way More than thirty-three moves in the rabbit are required before the resulting lymph can give a tape-like uniform vesiculation on the skin of a calf Vaccine virus is also capable of developing in calf testis

An Examination into the Degree of Efficacy of Anti-Rabic Treatment.

By LIEUTENANT-COLONEL HARVEY, C I E. I M S
AND
MAJOR H W ACTON, I M S
(From the Central Research Institute Kasauli)

THE statistical argument adopted by the authors lead to the following conclusions —

(1) The crude death rates from rabies whether amongst treated or untreated should be corrected in accordance with the constitution of the population concerned

(2) We should have substitution or at least inclusion of the total mortality rates in reports, which at present simply give failure rates

(3) The current ideas of the mortality occuring amongst the untreated are in need of revision

Discussion

Lieutenant-Colonel Cornwall (Coonoor) agreed with the desire of the authors for more accurate statistics

Mr Richards I C S (Madras) said that although a layman he wished to say a few words upon the question of statistics He considered that there was already machinery in this Presidency whereby much better information could be obtained There should be close co-operation between the Medical and Veterinary Departments especially in the Districts In this way he was sure that a considerable improvement in the accuracy of anti-rabic statistics could be obtained

Cholera and the Value of Prophylactic Inoculation.

By MAJOR H G STYLES WEBB, D P H D T M AND H (Cantab), I M S
Assistant Director of Public Health, North-West Frontier Province

THIS paper gives the experience of the author whilst working in the Districts of the North West Frontier Province on cholera during the months of April to September 1921

He deals briefly with the vibrios that have been found in connection with cholera and how they can obtain a footing in the human body and their ultimate fate there

He next touches on the subject of immunity as regards cholera, and finally gives his experience of inoculation as recommended to be practised at present, and his reasons for modifying the dosage to meet conditions attendant upon treating an epidemic in a widely distributed population when cholera was epidemic.

The following doses of cholera vaccine were employed by him —

Series (1)	a single dose of	0 5 c c	(4000 million vibries)
' (2)	do	1 0 '	(8000 ' ,,)
' (3)	do	1 5 '	(12000 ')
' (4)	Two doses	1st 0 5 c c	2nd 1 0 c c

He gives a series of cases of cholera occurring in 84 inoculated persons and wishes to hear if his experience is verified by that of others

The 84 cases which were inoculated occurred in three series as follows —

Series	Cases	Deaths
I	12	5
II	51	12
IV	21	7

No cases occurred in series III

The author summarises his conclusions as follows —

In the first place I have had no case of cholera occurring up to date in any individual who received a single dose of 1 5 c c. or more, and I think this justifies me in concluding that for District work at any rate, the larger single dose is essential to success I am prepared to admit that this probably won't protect every case but I think it would protect a larger number of individuals than any smaller dose, or 1 5 c c. in two successive doses would

I had no ill-effects whatever from giving the larger dose and experienced none myself

I should hazard the opinion that a first dose of 1 c c. followed in 10 days by one of 2 c.c. would be the ideal procedure but I had no opportunity of trying it in district work

I am now very firmly convinced of the value of inoculation and I will admit that when I started I was somewhat sceptical

Discussion

Major J Cunningham I M S said that he had listened to Major Styles Webb's paper with considerable interest The figures he gave in support of a single large dose of cholera vaccine were suggestive but the numbers were too small to definitely decide upon the matter While on the subject of dosage he would like to sound a warning against the unauthorised alteration of the dosage of prophylactic vaccines The instructions as to dosage given on the labels represented the outcome of considerable experience Individuals varied considerably in their reaction to these vaccines and as these were widely distributed the dose recommended by the laboratory was the one considered suitable for every case The different prophylactic vaccines also varied considerably in the reaction they produced The cholera vaccine used by Major Styles Webb had been made at the Central Research Institute This vaccine produced as a rule little or no reaction The speaker himself had had experience of several thousand inoculations with this vaccine and had never seen any serious reaction following it An increase in the dosage in this case could be made with more or less impunity in the majority of cases It was otherwise with vaccines such as T A B however The greatest diversity of opinion as to the severity of the reaction after the authorised dosage of T A B was expressed in the reports which reached him while acting as Director of the Central Research Institute during the war In certain cases large bodies of men could be inoculated without any excessive discomfort while in certain cases inoculated with the same vaccine and dose, the reaction appeared to be very severe Any laxity in dosage in cases of this sort might have the most serious effect and he would therefore draw attention to the responsibility which rested on any one who took upon himself to alter the dosage of these vaccines

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SATURDAY, MARCH 14, 1908

THE GENESIS OF GALLSTONES

Certain recent work on this subject seems to be of sufficient importance to deserve critical comment Nearly fifty years ago Thudicum originated the theory that gallstones were formed by the precipitation of cholesterin and certain calcium compounds as a result of the bile becoming acid This acidity he believed was due to decomposition of the bile on long standing or to a hypersecretion of mucus Since this was long before the discovery of bacteria, decomposition was considered purely a chemical change and hence the theory was known for years as the chemical theory

Naunyn especially has given us much information on the subject of the formation of gallstones, and to-day his classification and explanation of their origin have come to be generally accepted According to him inflammation plays a most important rôle and is usually the beginning of the process This is nearly always due to an infection with either colon or typhoid bacilli producing a desquamative cholangitis The bacteria and the epithelial cells form suitable nuclei on which the various constituents of gallstones are deposited These constituents are chiefly cholesterin (in some instances nearly pure) and calcium salts of bile pigments, also there are usually more or less carbonate and phosphate of calcium and small amounts of bile salts, soaps, fats, etc Now the important process and the one chiefly in dispute is the origin of the cholesterin and the calcium pigments Only a very small amount of cholesterin occurs in normal bile and this is not increased in disease Naunyn and his school, therefore, were led to believe that this substance was not a product of an abnormal liver secretion or an abnormal general metabolism but arose from the disintegration of the desquamating epithelial cells analogous to the manner in which it is supposed to be formed in secretions of inflamed bronchi in pus and necrotic tissues There can be little doubt but that some at least of the cholesterin is formed in this way

As to the origin of the calcium pigments which occur largely as the higher oxidation products of biliverdin and bilirubin namely bilihumin and bilifuscin it is probable that the presence of proteid in the infected secretion causes their precipitation and not an excess of calcium Naunyn suggests that bacteria may play a part in the oxidation of these substances

Kramer[1] has recently made some observations which perhaps will modify somewhat Naunyn's ideas rather than fundamentally change them Naunyn did not attribute the formation of cholesterin to the bacterial decomposition of the pure bile itself Kramer by inoculating bile, to which broth had been added, with colon and typhoid bacilli, and allowing the decomposition to go on for several weeks, observed the precipitation of all the constituents of gallstones, namely cholesterin, calcium salts, bile pigments, etc, and masses of bacilli After several months, these substances became firmly packed in the bottom of the tube so that they resembled soft "gallstones" He believes therefore, that gallstones are formed by the direct decomposition of bile by bacteria in a way exactly analogous to the formation of phosphatic urinary calculi in the urine by bacteria

This, however, does not exclude the origin of some of the cholesterin in the degenerating epithelial cells as it is not justifiable to assume that all of the cholesterin arises from the decomposition of bile alone

The work of Baldwin[2] on the relation of infectious diseases to gallstones recently commented on in these columns shows that the desquamation of cells in infections generally is very considerable, and the cholesterin may be seen in the cells even before desquamation has occurred It is possible that a part if not all of the cholesterin that Kramer observed separating out in decomposing bile may have had its origin in the epithelial cells of the bile tract It may also be noted that Kramer was preceded in his observations by Gerard,[3] who two years ago observed in the test tube the precipitation of cholesterin from bile inoculated with colon and typhoid bacilli while sterile bile did not show this decomposition

Lichtwitz[4] has recently attempted to explain the observations of Gerard and Kramer on a physicochemical basis He believes that in this way the formation of all the constituents of gallstones both in the test tube and in the gall bladder may be most satisfactorily explained Briefly, he considers that certain of the colloids and chemical constituents of bile have positive charges and that certain others have negative charges of electricity, and by the reaction of these substances under certain conditions, such as an acid medium, the various constituents of gallstones are precipitated

THE SANITARY RESPONSIBILITY OF PUBLIC CARRIERS

In times like these, when corporate responsibility is becoming more of a fact and less of a form, it seems worth while to call attention to a phase of responsibility sometimes ignored We refer to certain relations that corporate organization and operation bear to the public health Some kinds of hygienic responsibility, to be sure, have been frankly accepted It is generally recog-

1 Jour Exp Med 1907 p 314
2 Jour Biol Chem 1908 p 13
3 Compt rend Soc biol 1905 p 348.
4 Deutsches Arch f klin Med 1907 xcii p 100

rose is used in place of glucose in the culture media, a positive Voges-Proskauer reaction appears after a short period of incubation and the pink colour is brighter than in glucose media.

The Inapplicability of the Mills-Reincke Phenomenon to Indian Conditions

By MR T N S RAGHAVACHARI, B.A.,
(From the King Institute of Preventive Medicine, Guindy)

THE applicability of the Mills-Reincke phenomenon to the vital statistics of any town with a protected water supply depends upon four essential conditions

(*a*) The existence of a definite water-borne disease with an appreciable mortality

(*b*) An accurate record of the total death rate.

(*c*) An accurate record of the death rate due to certain individual diseases, both water borne and non-water-borne.

(*d*) The existence of a fully protected water supply This paper deals with the extent to which each of these factors is present under Indian conditions

The first condition is amply satisfied by the presence of cholera in endemic form

The second is in all probability sufficiently accurate in many municipalities to meet the case

The third is at present unattainable

The fourth is also open to serious doubts for the term "protected" as applied to water supplies in the Madras Presidency can only be regarded as relative, and in most cases does not come up to the standard required for a successful application of the phenomenon

Limitation of B Coli Method in Water Examinations

By RAO SAHIB V GOVINDARAJU, B.A.,
(From the Public Health Laboratory, Bengal)

CONTRADICTORY opinions are at present held on the subject of bacterial standards of purity of water in India My recent researches tend to throw some light on some of the causes of this divergence of opinion The presence of frogs in water has been found to be responsible for an increase in fæcal bacilli which, though negligible in the case of ordinary waters, is apt to be misleading in the case of waters of great purity like mountain spring waters Again stasis in reservoirs and passage through pipes may be responsible for an increase in fæcal bacilli, so that a mere increase in the number of fæcal bacilli in a water does not necessarily indicate fæcal contamination, but may simply be due to stasis in reservoirs or to flow through pipes

The "Sack Steam Disinfector"

By MAJOR L A P ANDERSON, I.M.S., D.A.D.M.S.,
(Sanitary), Army Head Quarters

A NEW type of disinfector devised by Colonel P S Lelean, Professor of Hygiene at the K. A. M. College, called the 'Sack steam disinfector," was brought to the notice of the Indian Science Congress by Major Anderson, I.M.S

The special features claimed for this apparatus are that it combines at a low initial cost, simplicity of construction, portability, high working efficiency and general utility for both civil and military use

This type of disinfector has also been elaborated into different types for use under various circumstances

The disinfector is very simple in construction and consists essentially of a steam-tight sack 2 ft. by 4½ in. of 10 cubic feet capacity the base of which is connected by hose to a small 8 gallon boiler The method of working it is also equally simple and depends on the displacement by steam of the heavier air contained in the sack. The water-filling pipe of the boiler is arranged in such a way that it permits water to escape.

Should the boiler pressure exceed 13 inch water-head, the emission of steam through the pipe gives warning that the boiler requires replenishing This forms a very simple and yet effective safety-valve, requiring no skilled attention for its supervision Tests carried out in England prove the efficiency of the disinfector as a germicide A disinfector of this type would be of special value in Schools, Municipalities, Hospitals, and Institutes, especially in the moffussil, ships, labour camps, pilgrim centres, etc

Some Observations on the Trenching of Night Soil

By DR JAHAR LAL DAS, I.M.S. D.P.H., M.B
Personal Assistant to the Director of Public Health Bihar and Orissa, and Health Officer, Patna

THIS paper records the observations of the author on the trenching of night soil at Manuktala, a first class municipal town with a population of 53,763 (1911) and only a limited acreage (30 *bighas*), available for trenching The instructions laid down in the circular issued by the Sanitary Commissioner for Bengal in 1909, enjoined amongst other things that a trenching ground should be divided into three plots and each plot should be trenched once in three years, *i.e.*, trenching in first year and cultivation for next two years with a view to prevent the land from becoming sewage sick Calculating on the basis of this circular, the total extent of land for the purpose, at least 200 *bighas* of land would have been required Consequent on the limitation thus set up, the author decided on retrenching every plot every few months, after examining them as to their fitness for retrenching He found that in a ripe (repeatedly) trenched soil it took nearly five, but never less than four, months, for the transformation of the excreta into a sort of odourless loose black earth irrespective of weather conditions whereas in a virgin soil it took about three months more for the excreta to acquire this character Thus every plot was retrenched about a dozen times instead of once, every three years

These observations were fully borne out at other places adjoining Calcutta, *viz*, Nadi Bagan, Howrah Cossipore, Chitpore Municipality and also in other parts of Bengal

He concludes that —

(1) The nitrifying organisms in the soil multiply enormously after the application of human excreta and the soil gets improved in quality to such an extent that it can be retrenched more often than the period originally laid down

(2) No soil was found to disintegrate in less than four to five months

(3) The soil did not appear to become sewage sick.

(4) Except from an economical point of view, the idea that cultivation is necessary is not based on any substantial evidence.

(5) By not reapplying night soil to any plot for about two years, the plot may acquire more or less the characteristics of virgin soil by the death of the nitrifying bacteria as a result of starvation

(6) Hard clayey soil when retrenched at short intervals improves in quality and acquires a porous character suitable for trenching

Sewage Disposal with use of Gases for Generating Electricity and of the Effluent for Agriculture.

By K BURJORJI DADYBURJOY, B.A., I.C.E.,
(Engineer, Municipal Committee, Jubbulpore)

THE present method of sewage disposal in Indian towns is defective and uneconomical Septic tank treatment of sewage and disposal of residue on land for sewage farming have been tried in a few places, but concerted attempts have not been made to utilise to the best advantage the gases which emanate from the septic tanks and which are bound to be a source of great nuisance These gases can be collected and burnt in gas engines for generating electricity to be

tempted to believe that the false report that was given such wide publicity was another specimen of what Samuel Hopkins Adams calls "tainted news." It is a notorious fact that certain sophisticators of food-stuffs and exploiters of nostrums would give much to see Dr. Wiley's place filled by some one less strenuous in the exposure of frauds. Doubtless this canard was a part of the campaign now being made by the scared liquor interests against the oncoming wave of prohibition sentiment. That the report, which could do so much to harm Dr. Wiley's reputation as a careful observer, was given such prominence in all the great city dailies, while his denial was accorded a most inconspicuous place in the same journals, admits of but one of two possible explanations. Either the false report fulfilled the requirements for sensationalism in "yellow" journalism, or it was sent out with the object of prejudicing public opinion against its alleged author.

ULTRAFILTRATION

In recent researches in experimental pathology there is perhaps no one mechanical device that has been of more importance than the various forms of fine-pored filters of unglazed porcelain or similar substances. Their power to hold back bacteria while permitting substances in solution to pass through has been of inestimable value in permitting us to secure bacteria-free substances uninjured by sterilization with heat or other violent means, and also in providing a means of separating bacteria from their products. So, too, investigators studying diseases of unknown etiology have first of all sought to obtain some ideas as to the approximate size of the infectious agent, by determining through what sort of a filter the virus will pass. In this way, we have learned of several diseases produced by organisms that pass through fine porcelain filters, including hydrophobia, yellow fever, rinderpest, and foot and mouth disease of cattle, and the inference is that the unknown causes of these infections must be smaller, at least in certain stages of their development, than ordinary bacteria. Furthermore the composition of many complex fluids seems to be altered in passing through these fine-pored filters, enzymes being more or less reduced in strength and absorption of various colloidal substances often being a prominent effect. In view of the importance of these filters to the experimenter, therefore, any new device is of much interest and may well be of great importance in helping us along in our researches.

Nothing more important has been recently produced in the way of mechanical appliances applicable to pathologic research than the method of filtration devised by Dr. H. Bechhold[1] of Ehrlich's laboratory and designated as "ultrafiltration." The principle is simply that of infiltrating an ordinary form of filter with some colloidal substance that can be hardened, such as gelatin or collodion, and forcing through under pressure the fluid that is to be filtered. By modifying the nature and the concentration of the colloid used, filters can be obtained with almost any sized pores desired, and so it is possible to modify the means to the end with great success. The results already obtained with these filters suggest immense applicability in many fields of research. For example, a filter can be so prepared that it can separate two different colloids from one another, when they can be separated only with difficulty by chemical means. It is possible to filter even so soluble a protein as hemoglobin and to obtain a clear, uncolored, watery filtrate. The different fractions of peptones and albumoses obtained in protein digestion, and which ordinarily are only separable by means of the unsatisfactory "salting out" process, can be separated from one another equally as well by merely using suitable filters. Filters can be made to separate crystalloidal substances from colloids, and thus replace the time-consuming process of dialysis by a rapid filtration method, without the usual excessive dilution of the diffusate. Obviously, pathogenic agents of different sizes can be separated from one another by this method.

Undoubtedly, this device of Bechhold's will find great application not only in purely scientific and technical investigations, but also in those immediately concerned with medical problems. One result already obtained has much therapeutic interest, as it concerns the important studies that are being made in Ehrlich's laboratory in the attempt to secure non-toxic antiseptics suitable for intravenous administration. Among the substances prepared for this purpose were some of great bactericidal power, inhibiting the growth of diphtheria bacilli in dilutions of one part in half a million of bouillon culture, and at the same time not very toxic to the animal organism. However, when it was attempted to cure infected guinea-pigs by injecting many times the amount of antiseptic necessary, according to theory, to destroy all the bacteria in them, absolutely no success was obtained. Experiments then showed that diphtheria bacilli in blood serum are by no means so readily killed as those suspended in bouillon, and the question arose as to whether or not the inefficiency of the drug in the serum and in the living animal depends on its being bound in the serum, or on the more favorable environment that serum affords the bacteria. To solve this question, the ultrafiltration method was called into use, and it showed that the antiseptic is bound by the serum and thus rendered inactive. Consequently, the experimenter learned that in devising antiseptics for intravenous use he must not only consider the antiseptic power and the freedom from toxicity, but he must also seek to find some means of rendering his antiseptic less prone to combination by the serum, at the same time the ultrafiltration method gives him a ready means of determining in his experiments how effectively he is accomplishing this last named object.

1. Ztschr. f. physikalische Chemie, 1907, lx, 257.

being 14 cases in 1919, 13 in 1920, and only 6 in 1921

(2) *Acute Infective Enteritis*—The year shows a welcome drop in admissions under this head, as during the previous three years it had been on the increase The figures are —

1918	36
1919	43
1920	50
1921	11

(3) *Malarial Fevers*—The reduction of malaria during the past two years has been the most remarkable on record 1920 showed a reduction in admissions of nearly 5,000 as compared with 1919 and 1921 shows a further reduction of nearly 4 500

I have recently worked out the figures for the previous thirty years and give the following summary —

	Average of the 30 years 1891—1920	1921
Total number of convicts	12,174	11,183
Total admissions to hospital, all causes	20,368	12,483
Total admissions to hospital for malaria	12 115	5 618
Percentage to total admissions	59.35	45 00
Total number of deaths from malaria	41 4	15
Percentage to total deaths	10 73	8 72

The above figures show that whereas compared with the average of the previous 30 years the total number of convicts has been reduced by only 8 1 per cent the total number of admissions to hospital for malaria has been *reduced by* 53 6 per cent and the total number of deaths from malaria by 63 7 per cent The actual totals and the per cent reduction constitute a record in the history of the Settlement

The Jail Commission, in their report commented on the reduction of admissions for malaria in the Female Jail, consequent on the filling in of the adjacent salt-swamp This improvement has been maintained, and the following figures are worthy of record —

Year	Female Jail Admissions for malaria	Ratio per cent of admissions to *population*	
Average of Decennium 1893—1902	609	171.36	
1901	850	221.35	
1902	945	240 45	
1913	581	206 76	
1914	430	154 12	Period of swamp reclamation
1915	911	318 53	
1916	457	159.23	
1917	332	120.73	
1918	130	48 15	
1919	156	62.65	
1920	172	71 08	
1921	107	46 93	

As regards the above figures, I have added the average from 1893—1902 to show what the malarial sick rate was in earlier days, and have noted the years 1901 and 1902, because special endeavours were then made to reduce malaria in the Female Jail by means of prophylactic quinine and nets The increase in 1915 was due to a virulent outbreak of M T Malaria throughout the Settlement the slight increase in 1920 was due almost entirely to relapses

It was during the years 1913—1917 *that the* Female Jail swamp was reclaimed The figures of the subsequent *years speak for themselves*

It is therefore unfortunate that, during the year 1921 the work of reclaiming the *Phœnix Bay* swamp had to be stopped Until this is completed, the inhabitants of Aberdeen Middle Point and Phœnix Bay will always be subject to malaria. Apart from swamp reclamation, to what can we attribute the great reduction in malaria of the past two years ?

It is a well known fact that malaria has cycles of virulence and it may be that we are experiencing a period of lessened virulence Another fact about malaria is that it forms a series of vicious circles with other diseases, such as dysentery, pneumonia and phthisis A prevalence of these diseases leads to a lowering of resistance against malaria and *vice versa*, and probably the same climatic and other conditions that favour say dysentery also favour malaria Therefore the reduction in malaria may be, in part, due to the coincident reduction in dysentery, scurvy, phthisis and pneumonia

It is also due, however, to the prevention of relapses of malaria by more intensive treatment in hospital coupled with properly supervised post-material treatment

(4) *Pneumonia*—This disease also shows a welcome and progressive reduction The figures are as follows —

Year	Admissions	Deaths
1918	216	97
1919	154	74
1920	139	70
1921	99	32

The reduction in the case mortality from about 50 per cent to under 33 per cent is especially satisfactory and reflects credit on the treatment and nursing carried out by the Junior Medical Officers and Sub-Assistant Surgeons in charge of the cases The reduction in admissions for pneumonia reflects the improvement in malaria, etc. The influenza epidemic, luckily was of a mild type, and pneumonia was not prevalent among these cases

(5) *Dysentery and Diarrhœa*—The improvement under this heading was well maintained especially in regard to dysentery The following are the figures for the past four years —

Year	Adm Dys	Deaths Dys	Adm Diarrh	D Diarrh
1918	1,209	79	690	9
1919	1 608	123	598	13
1920	778	50	393	9
1921	460	10	381	5

The deaths from dysentery are the lowest on record

(6) *Scurvy*—There is a marked' drop in admissions under the head

Year	Admissions	Deaths
1919	50	1
1920	46	10
1921	17	nil

This welcome result is probably in part, due to the increase in the fresh vegetables ration which was instituted in the month of March

(7) *Tuberculosis* —

Year	Admissions	Deaths
1918	84	69
1919	87	54
1920	65	56
1921	46	29

The Jail Commission having agreed to the unsuitability or retention of phthisis cases in Port Blair, and the Government of India having facilitated their transfer, it has been possible to send 47 cases away to their native climates 11 others were released This accounts for the reduction in the number of deaths The reduction in admissions is not so easily accounted for It may partly be due to the general healthiness of the year There is, however, little doubt that many early cases of phthisis are not diagnosed and that the 46 cases recorded are almost all in an advanced stage of the disease It is hoped to tackle the problem of incipent tuberculosis during this year and to collect all suspicious cases in a healthy locality under special medical observation

By December 1st, there were only 8 cases awaiting transfer so it was possible to close the large phthisis barrack and accommodate them in another barrack at a higher elevation and in a more accessible position

the grateful beneficiaries Meetings of the kind contemplated have not hitherto been held in this state The opportunities that lie before such gatherings for accomplishing good are practically boundless No long addresses will be delivered, but after a few five-minute talks from physicians in explanation of our public-health system the floor will be open to any persons who may wish to be heard" The educational value of such meetings held under the auspices of the state board of health, at which the people can present any supposed complaints or criticisms and can learn the facts on hygienic matters from an authoritative source, must be apparent Again the fact is emphasized that only through education and enlightenment can progress come

BACTERIA OR ALGÆ

It is a matter of at least academic interest to physicians to learn that Professor Dunbar,[1] as the result of an elaborate study continued over a considerable period of time, has come to the conclusion that bacteria are simply a form in the life stages of the algæ instead of being a special separate type of lone vegetable organisms He took a pure culture of a single-celled alga, one of the *Palmellasia,* and by modifying the culture medium by the addition of various substances, acids, alkalies, or traces of copper salts, he observed other organisms, chiefly bacteria, but occasionally moulds or yeasts, and even spirochetes, appear in the culture The appearance of these last-named organisms in such conditions would seem to throw light on their true position in the organic world, for they have not usually been classed among the members of the vegetable kingdom, though their position among the protozoa has been questioned That is, of course, should there be no error in observation or method in Dunbar's experiments, and *Nature,* in its comments, seems to credit them with special care and accuracy The assumption of a possible explanation of the appearances by Bastian's heterogenesis will hardly be generally accepted We know so little of the natural history of these low organisms that by themselves show so few tangible characters other than their chemical and pathogenic properties, that Dunbar's findings seem rather striking and possibly even epoch-making in their way They will undoubtedly be thoroughly tested by bacteriologists, and if confirmed, may even develop some practical importance. There may be more pathogenic possibilities in the "green mantle of the standing pool" than we are inclined at present to admit

A SANE OPINION OF VIVISECTION

It is refreshing to read the sensible remarks by Mrs Cadwalader Jones, president of the woman's auxiliary of the S P C A at a recent meeting in New York City and to see that although she regrets the commotion it has caused, she has the moral courage to face the opposition she has aroused Humane societies will not find that emotional exaggerations and misrepresentations will be profitable to their really meritorious objects in the long run, no good cause can afford to be supported by reckless misstatements It would be well if all philosophic organizations were led by like sensible counsellors The great surgeon, Nicholas Senn, who has just passed away, and to whom we owe no small share of the knowledge that has made some of the most brilliant achievements of modern surgery possible, said many years ago that no one is fit to attempt abdominal surgery on man who had not prepared himself by operations on the lower animals, and it is still safe to say that no new operation should ever be tried without prior assurance of its usefulness and practicability from animal experimentation. In fact, the question resolves itself into this Are we to learn to help our fellowman by experiments on him or on less valuable lives? The charge that vivisection for the benefit of our race "annihilates the sense of mercy" hardly calls for refutation We need not go so far as to admit with Mr Cable's Dr Sevier that the true philanthropist must be cold-hearted, but he can do no good by self indulgence in useless emotionalism Such sentimentalism that can not bear to look on what seems like pain can do nothing to alleviate it and is all the while the cause of far more human and animal suffering than all the animal experimentation for legitimate physiologic or surgical purposes that ever has or will be done The physiologist and surgeon are not necessarily hard hearted, much less delighting in cruelty, and the wholesale charges against their humanity are positively immoral

1 Die Entstehung von Bakterien Hefen und Schimmelpilzen aus Algenzellen published by R Oldenbourg Munich and Berlin Nature Feb 13 1908

Medical News

GEORGIA.

Atlanta's Board of Health.—The Board of Health of Atlanta has organized for the year with the following medical members Dr Bernard Wolff, president and Drs William B Armstrong, William L Gilbert, secretary, and Cyrus W Strickler

State Board Appointments—The governor has announced the appointment of Drs Francis M Ridley, La Grange, and Dr Isham H. Goss, Athens, as members of the Allopathic Board of Medical Examiners, Dr Ridley succeeding himself and Dr Goss succeeding Dr William D Travis, Covington

The Grady Hospital Trouble—The contest between the Atlanta College of Physicians and Surgeons and the Atlanta School of Medicine for equal representation on the medical staff of the Grady Hospital has been settled by the city council by the adoption of a rule permitting bedside instruction Both schools are said to be satisfied, the Atlanta School of Medicine obtaining a parity of professors on the hospital staff and the Atlanta College of Physicians and Surgeons securing the privilege of allowing its students bedside instruction in the wards of the hospital

Medical Society Elections—At the annual meeting of the Georgia Medical Society, held in Savannah recently, Dr Thomas J Charlton was elected president, Dr Jabez Jones, vice president, Dr John K. Train, secretary, Dr William W Owens, treasurer, and Dr John A Crowther, librarian, all of Savannah——The Fourth District Medical Society was organized at Columbus March 5 with the following officers Dr Charles L Williams Columbus, president, Dr M M Hallum, Carrollton, vice president, and Dr Charles A Dexter, Columbus secretary treasurer The meetings of the society will be held semi annually

ILLINOIS

Millikin Entertained in Bloomington—Dr Daniel Millikin, Hamilton, delivered an address March 5, before the McLean County Medical Society, Bloomington, on The Historical Value of the Work of the Physician" Dr Millikin while in the city was the guest of Dr and Mrs John L. Yolton, who



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BOVRIL

MISSOURI.

St. Louis

Section Election—On February 18 the section on urology of the St Louis Medical Society of Missouri elected the following officers Chairman, Dr Bransford Lewis, vice president, Dr Eugene A. Scharff, secretary treasurer, Dr Hartwell N Lyon, and editor, O Le Grand Suggett

Personal.—Dr and Mrs Horace N Spencer are expected to return from Central America next week ——Dr Frank L Henderson has gone to Europe ——Dr Henry L M Wolfner is spending his vacation in Central America ——Dr Henry A. Geitz has returned from Florida ——Dr Rutherford B H Gradwohl was thrown from his carriage March 7, in a run away accident, and painfully injured

Tuberculosis—The St Louis Society for the Relief and Prevention of Tuberculosis has had a bill introduced in the Municipal Assembly providing for the appointment of a commission to investigate and recommend means for the control and elimination of tuberculosis The bill has already passed the house of delegates, and it is believed the council is favorably disposed toward it The commission will be composed of nine members, to be appointed by the mayor who will work without pay The only expense will be clerical and incidental, and for that purpose an appropriation of $2 500 is asked —— The society has arranged with the San Carlos Opera Company to give three performances in their benefit, March 13 and 14

NEW JERSEY

Bequests.—By the will of the late Charles E. Wood, Washington, D C., provision is made for the establishment of a sanatorium at Atlantic City, to cost about $300 000

Personal—Dr Mortimer Lampson, Jersey City, has been appointed warden of the Jersey City Hospital ——Dr Daniel M Stout, Berlin, is reported to be seriously ill with heart disease ——Dr Henry B Rue has resigned as member of the Hoboken board of health

Physicians Organize—At a meeting of the physicians of Millville, February 14 the Millville Medical Association was organized, with the following officers President Dr John W Wade vice president Dr Cornelius S Franckle, secretary, Dr Ralph R. Charlesworth, and treasurer, Dr F Vernon Ware

Additions to Hospital.—Several additions have been made to the Cooper Hospital Camden In addition to wards, the new portion contains a diet kitchen an *x* ray room a pathologic laboratory and two operating rooms complete with sterilizing anesthetizing and recovery rooms, with surgeons' dressing rooms and a special room for nurses

Internes' Examination—An examination to fill two vacancies on the resident staff of Christ Hospital, Jersey City, will be held April 4 at 1 p m, at the hospital, 176 Palisade Avenue The term of service is eighteen months and internes are furnished board and rooms Intending candidates should make application to the secretary Dr H J Bogardus secretary of the medical board, 176 Palisade Avenue Jersey City

Vital Statistics for February—During the month of February there were reported to the bureau of vital statistics 3 528 deaths an increase of 147 over the previous month Pneumonia caused 516 deaths an increase of 105 over the previous month, and 72 over the corresponding period of 1907 Pulmonary tuberculosis caused 91 deaths more than the previous month, and other diseases of the respiratory system caused 275 deaths 90 more than the monthly average for the year Chief among death causes were Pneumonia 516 diseases of nervous system 434 tuberculosis 422 diseases of the circulatory system 420 nephritis 220 diseases of the digestive system 174 cancer 126 diphtheria 67, infantile diarrhea 52 scarlet fever 50 typhoid fever 39 whooping cough and cerebrospinal meningitis, each 24, suicide, 22, and measles, 11

NEW YORK.

Another State Institution—A bill has been introduced into the legislature appropriating $188 000 for the purchase of a site for the new Eastern New York Asylum for Epileptics

A Gift for Rosary Hill Home—A patron of this institution for incurable cancer patients at Hawthorne has given sufficient money to construct a sun parlor for the women The large entertainment hall given by the same benefactor, has just been completed

For Crippled Children—A proposition is before the legislature for the establishment of a home for crippled children at Rochester, using property formerly occupied as a correctional asylum As the state has a home for crippled children at Haverstraw, it is suggested that the capacity of this institution be increased, as it has already more applicants than it can accommodate

Report on Sewage Plants—The State Department of Health has completed its investigation of the sewage disposal plants in the state. More than 50 plants were examined and fully described as regards construction, operation and management The department encouraged the construction of these plants by refusing to grant permits for the discharge of raw sewage into the waters of the state There are already about fifty plants in the state, the oldest being at Brewster established in 1893 The department proposes to keep these plants under observation, and by systematic analyses of the raw sewage and effluent, the value of the plants in connection with the variation in construction, and the character of the sewage may serve as a guide to municipalities contemplating the construction of plants

New York City

School for Deaf Mutes—A day school for deaf mutes, under control of the city, will be opened about April 1 There will be accommodations for 250 pupils There are classes for crippled children and fifty classes for mentally defective children, but as yet nothing has been done for the blind

Hospital Report—The annual report of the German Hospital and Dispensary shows that 4,852 patients were treated at the institution in 1907, and 581 were visited at their home by members of the hospital staff During the year the hospital became the absolute owner of the building and grounds The expense of the hospital for the year was $216,724

Contagious Diseases—There were reported for the week ended February 29, 451 cases of tuberculosis, with 204 deaths 1,554 cases of measles with 39 deaths, 924 cases of scarlet fever, with 39 deaths, 373 cases of diphtheria and croup, with 44 deaths, 45 cases of typhoid fever, with 9 deaths, 20 cases of whooping cough, with 1 death 16 cases of cerebrospinal meningitis, with 8 deaths, 181 cases of varicella, making a total of 3,563 cases, with 344 deaths

PENNSYLVANIA

Bequests—By the will of the late William B Scott the Bryn Mawr Hospital and St Christopher's Hospital, Philadelphia, will each receive $25,000

Quarantine Raised—The quarantine placed on the Keystone State Normal School at Kutztown on account of the presence of scarlet fever, has been raised

Diphtheria Closes Schools—Owing to the prevalence of diphtheria in Johnstown the Conemaugh health board has ordered that all schools, churches theaters and other public places be closed until further notice

Mercer Hospital Changes.—After a meeting between the board of trustees of Mercer State Cottage Hospital and Dr J Clayton Weidman, superintendent and surgeon in chief of the institution for 13 years, the latter was succeeded on March 3 by Dr Paul T Hope of Mercer as surgeon in charge, and Miss Helen Hunt was elected superintendent

Health Appropriation Decreased—At a meeting of the Chester council March 2 the annual appropriation for the bureau of health of $4,050 was decreased to $2 250 This deduction of $1 500 was made in order to dispense with a city bacteriologist The physicians of Chester however, are very anxious to have the city bacteriologist retained

Philadelphia

Benefits—The net proceeds of the twenty-eighth annual charity ball amounted to $7,200 The managers have given to each of the following charities the sum of $1,800 The maternity department of the University of Pennsylvania, gynecologic ward of Jefferson Hospital, Rush Hospital for Consumption and Allied Diseases and the Children's Hospital

Hospital Reports—The report of the Presbyterian Hospital for February shows that 192 new patients were admitted total number treated 401, 173 discharged, and 1,669 treated in the dispensary ——The Howard Hospital during February treated 113 accident cases, put up 3,613 prescriptions treated 611 new dispensary patients, and admitted 60 patients to the hospital ——The Charity Hospital shows in its February report treatment of 315 medical cases, 231 surgical cases, 40 eye cases and 66 cases of ear and throat

Personal—Dr J Madison Taylor acted as toastmaster at the annual banquet of the Princeton Club, March 5 ——Dr H W Wiley, Washington D C addressed the Pennsylvania, New Jersey and Delaware Wholesale Grocers' Association at

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Cholera in the Philippine Islands—During the week ended January 11, there was an increase in the number of cholera cases in Manila, there being a total of 45 cases with 35 deaths, and the prevalence of the disease is still increasing During the latter part of the week, cholera commenced to attack persons better nourished and housed During the week there were 45 cases and 43 deaths in the town of Mariquina, which is situated on the banks of the river, above the intake from which the water supply of the city of Manila is obtained

The Flea and Rat Question—The surgeon general of the Public Health and Marine Hospital Service has made a request for fleas for identification and for information relative to local species of fleas and rats This request is made to the officers of his service and to health officers and physicians in general Physicians are invited to cooperate with the bureau by furnishing such information as they may have or may be able to obtain respecting the species of fleas and rats found in their respective localities, and to secure and forward to the hygienic laboratory of the Service specimens of fleas for identification All specimens should be collected in small vials of alcohol, using no cotton within the vial. Special care should be taken that each vial represents but a single host species, and is accompanied by full data, host locality and collector Fleas should be collected immediately after the death of the host Probably the most important collections of fleas that can be made are of those species actually found on plague or leprosy patients or on lower classes of human beings in the more sordid surroundings, especially near wharves or docks

Mexican Notes—Drs Eduardo Liceaga, José Terres, Manuel Toussaint, and Octavio Gonzales Tabela have been appointed a commission by the National Medical Academy to decide on the merits of the theses on typhus fever submitted to that body, and have summoned some of the authors of theses to give additional information regarding experimental questions The commission will then report on the work and will decide whether any of the theses presented are sufficiently worthy to receive the $10 000 prize offered by the government——Pneumonia is reported to be almost epidemic in the City of Mexico During November 235 deaths were reported, and during December 338——The organization committee of the Fourth Medical Congress has decided to hold the next meeting of the congress in the City of Mexico in 1910 The congress will discuss matters of national interest, such as typhus fever, malarial fever, leprosy, yellow fever, smallpox and mal de pinto, a skin disease prevalent in southern Mexico——The authorities of Torreon are preparing to erect a hospital to cost about $100,000——The bacteriologic and other laboratories of the Civil Hospital San Luis Potosi, will be completed in a very short time

Railway Surgeons Meetings—At the first session of the Joint Surgical Association of Illinois Central, Yazoo and Mississippi Valley and Indianapolis Southern railroads, held in Memphis Tenn, February 27 and 28, the following officers were elected President Dr John E Owens, Chicago, vice presidents, Drs David G Murrell, Paducah, Ky, and W Battle Malone, Memphis, Tenn, secretary treasurer, Dr Charles B Ivy, Mattoon, Ill, and executive committee, Drs John E. Owens, Chicago, James H Letcher, Henderson, Ky Henry C Fairbrother, East St Louis, Ill., Eugene J Johnson, Yazoo City Miss, John P Lord Omaha, Neb, and R. E Friebaugh At the close of the business meeting, the members of the association presented a silver punch bowl to Dr Owens, Dr William F Grinstead Cairo, Ill, making the presentation speech——At the annual meeting of the Association of Seaboard Air Line Railway Surgeons held in Tampa Fla, February 18 19 and 20 the following officers were elected Chief surgeon Dr Joseph M Burke, Petersburg Va president, Dr Louis S Oppenheimer, Tampa Fla vice presidents Drs Jarvis C Dean, Dawson, Ga Hillary M Wilder, Charlotte, N C and Emmett H Terrell Richmond Va secretary treasurer Dr Jarrett W Palmer, Ailey Ga, and executive committee Drs James R. Rogers Raleigh N C Southgate Leigh Norfolk Va John W Corbett Camden S C John M Blair, Monroe N C. and John W Miller, Cross Hill S C

Coming Meetings—The American Society of Tropical Medicine will hold its fifth annual meeting at the Johns Hopkins Hospital Baltimore March 28 under the presidency of Dr James M Anders Philadelphia whose address will be on the subject of "A Brief Review of the Years Progress in Tropical Medicine" Dr Joseph McFarland Philadelphia will present a memoir of the late Major James Carroll surgeon U S Army Dr R H von Erdorf New Orleans will give his report as delegate to the Third International Sanitary Convention of American Republics Captain Bailey K. Ashford, assistant surgeon U S Army, will speak on "Puerto Rico as a Field for Research in Tropical Medicine," and Dr Richard P Strong, Manila, will discuss "Vaccination Against Plague" At the afternoon session there will be a symposium on the prophylaxis of malaria, at which Dr William H Thayer, Baltimore, will speak on "Quinin Prophylaxis", Captain Charles F Craig, assistant surgeon U S Army, Fort Leavenworth, Kan, on "Mechanical Prophylaxis," and Prof L O Howard, Washington, on "Mosquito Extermination," after which Dr Judson Daland, Philadelphia, will present a paper on "Strongyloides Intestinalis in Philadelphia," and Dr Solomon Solis Cohen, Philadelphia, will recount his "Twenty Years' Experience with the Hypodermic Use of Quinin with Urea Hydrochlorid in Malarial Infection, with Remarks on the Thirteen to Fourteen Days' Cycle of Freedom Produced by a Single Injection" There will be an exhibition of pathologic specimens in the laboratories of the Johns Hopkins Hospital, and a dinner is to be given in the evening——The eleventh annual meeting of the American Gastro Enterological Association will be held in Chicago, June 1 and 2, under the presidency of Dr John P Sawyer, Cleveland, Ohio——The next annual meeting of the American Orthopedic Association will be held June 4, 5 and 6 at the Chicago Beach Hotel, Chicago

CANADA

Annual Health Report.—The eleventh annual report of the Board of Health of British Columbia showed smallpox present during the year in nine centers—38 cases in all, in every instance imported from the United States The comparison with the state of Washington, which had 1,100 cases, speaks well for the prompt action of British Columbia's health officer Dr Fagan, the secretary, said that bubonic plague did not secure a footing in British Columbia in 1907 Diphtheria was responsible for 14 deaths out of 98 cases reported He recommended that the Dominion government establish a laboratory for the supply of sera Dr Fagan also recommended that school teachers be qualified to impart instruction in sanitary science

Canadians Regret Senn's Death.—At a recent meeting of the Ottawa Medico Chirurgical Society, resolutions, moved by Sir James Grant and seconded by the president, Dr John L. Chabot were adopted, setting forth the loss sustained to the medical world by the death of Dr Nicholas Senn The resolutions stated that "few men have contributed more toward the high status of science in the neighboring Republic than Senn who, as an original thinker, occupied a unique position and his contributions cover a wide range in surgery and literature What Syme was to Scotland in surgery, Senn was to America" "A nobler profession there is not in the world, and few have left a more remarkable record than Senn" "The members of the Ottawa Medico Chirurgical Society desire to express their profound sympathy with the profession of Chicago in the great loss sustained by the death of Dr Senn, possessed of a kindly and sympathetic spirit and absolute honesty of purpose"

A Tuberculosis Conference.—At a tuberculosis conference held in Toronto, March 4, by the National Sanitarium Association, the governor general presided and delegates were present from 44 municipalities and 17 counties of Ontario Unanimously a resolution was passed asking the Ontario government to increase materially its annual grants toward stamping out tuberculosis in the province Mr W J Gage, the father of the National Sanitarium Association, which has done such excellent work in this line in Ontario, stated that the 30,000 deaths from tuberculosis in Ontario in the past ten years, represented about 120 000 cases always in existence in the province In the past seven years there had been a decrease of 15 per cent throughout the province from this disease—a condition which is encouraging A special delegation from this conference asked the government that the grant for the maintenance of consumptive patients be increased from $1.50 to $5 a week Premier Whitney promised that his cabinet would give this question more than ordinary consideration

FOREIGN

Cholera at Mecca—The *Public Health Reports* state that cholera is raging among the pilgrims at Mecca as well as at Djeddah, where the deaths have lately averaged over 400 a day

Carnegie's Gift to the Koch Endowment.—Andrew Carnegie has extended his munificence to Germany and has just given to the Koch Endowment Fund $125,000 This brings the total of the fund to date to $200,000

Original Articles.

FILARIASIS AT PURI

By S K. ROY, MB,
and
S C BOSE, BSC., MB,
Assistant Surgeons on Filariasis Research Work, Puri

PURI is a notorious endemic area of filariasis The magnitude of infection here will be evident from the following tabular statement showing the percentage of prevalence of the different filarial affections at Puri as determined by us on a group of 571 unselected persons examined at Puri Jail and Sadar Hospital during the last 2 years

Cases	No of cases	Percentage
1 Total number of cases examined	571	
2 Cases showing microfilaria in blood	156	27 3
3 Cases of fever and lymphangitis —	75	13 1
4 Cases of filarial abscess	10	1 7
5 Cases, elephantiasis of scrotum	9	1 5
6 Cases of elephantiasis of leg	44	7 7
7 Cases of elephantiasis of arm	3	0 5
8 Cases of elephantiasis of vulva	4	0 7
9 Cases of elephantiasis of penis	3	0 5
10 Cases of orchitis and funiculitis	2	0 3
11 Cases of synovitis	2	0 3
12 Cases of chyluria	2	0 3
13 Cases of hydrocele	6	1 05
Total number of cases showing clinical manifestations of filariasis	160	28
Total number of cases of elephantiasis	63	11

It will thus be seen that about 27 3 per cent of the population here harbour microfilariæ in their blood and about 28 per cent exhibit the clinical manifestations of filariasis It should be noted that mostly adult males were examined, there being only 10 females and 9 juveniles in the series

Puri can thus well stand comparison with the other great centres of filariasis in the world It may not be out of place to make a tabular comparison as follows —

Place	Microfilaria rate	Elephantiasis rate
1 Puri	27 3%	11%
2 Cochin	20·9% (Cruickshank)	12·9% (Cruickshank)
3 West Indies	20 to 30% (Daniels)	1 to 2% (Daniels)
4 Samoa	About 50% (Manson)	About 50% (Manson)
5 Fiji	27 1% (Bahr)	
6 Friendly Islands	32% (Thorpe)	
7 South China	10% (Manson)	

The percentage of people exhibiting clinical manifestations of filariasis in Fiji is about 25 4 per cent as compared with 28 per cent at Puri Of the clinical manifestations, filarial fever with lymphangitis (13 per cent) and elephantiasis (11 per cent) are the most common at Puri

The incidence of M F in the different filarial affections, as well as in healthy men as determined by us in the 571 cases is as follows —

Cases	Total No examined	No with M F in blood	Percentage
1 Persons apparently healthy	411	120	29
2 Lymphangitis and Filarial fever -	75	17	22 6
3. Filarial abscess	10	6	
4 Elephantiasis of scrotum	9	4	
5 Elephantiasis of arm	3	*Nil*	
6 Elephantiasis of leg	44	3	
7 Elephantiasis of vulva	4	1	
8 Elephantiasis of penis	3	*Nil*	
9 Total No of elephantiasis cases	63	6	12 6
10 Hydrocele	6	2	
11 Orchitis and Funiculitis	2	1	
12. Synovitis	2	2	
13. Chyluria	2	2	

It will be seen from the above statement that only 22 6 per cent of cases showing typical lymphangitis and fever show M F in the blood while the remaining 77 4 per cent may show nothing in the blood We had only 2 cases of chyluria, yet both of them showed M F in the blood

INCIDENCE OF M F IN ELEPHANTIASIS AND DIFFERENTIAL DIAGNOSIS OF ELEPHANTIASIS

That the incidence of M F in healthy men (29 per cent) was much higher than that in elephantiasis cases (12 9 per cent), as is well-known, occurs in every place where filariasis is prevalent

In this connection it should be noted that Daniels is of opinion that "unless a patient comes from or has been living in a district where filariasis occurs, the condition (elephantiasis) cannot possibly be attributed to F bancrofti Such cases occur in England" Bilateral hereditary trophœdema of the legs (Milroy's or Meig's disease) is not uncommon in England , there being only a family history, sudden demarcation between the swollen and non-swollen parts, association with acute attacks of pyrexia and gastric disorders and absence of filariasis in England to differentiate this disease from elephantiasis of the tropics Chronic œdema from long standing ulceration and repeated attacks of chronic erysipelas may

Therapeutics

[It is the purpose of this department to outline an up-to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters, that a teaspoon holds five cubic centimeters, i. e., more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

The Influence of Diet on the Liver

Dr. Chalmers Watson, Edinburgh, writing in the *Lancet*, Oct. 12, 1907, describes the condition of rats' livers after the animals were given different diets. The percentage of weight of the liver in meat-fed rats was, as a rule, considerably greater than in the control bread and milk fed rats. From the examination of the livers of meat-fed rats and those of bread and milk only fed rats and those of rats which had not been in captivity and hence were supposed to have eaten varied nitrogenous foods, it seemed proved that the meat-fed and the naturally fed rats had much larger livers than the bread and milk fed rats. The average liver weight of the meat-fed rats was 6 grams, while the average liver weight of the bread and milk fed rats was 4 grams.

From these experimentations it may be advisable to put a patient with enlargement of the liver from a cause other than tumor on a bread and milk diet.

Psoriasis.

Dr. Kanoky, Kansas City (*Dietetic and Hygienic Gazette*, January, 1908) discusses the treatment of this disease. If the diseased areas are thick and indurated, he advises scraping off the scaly tissue with a sharp curette. "The patches should then be thoroughly scrubbed with hot water (rendered alkaline by the addition of borax or sodium carbonate) and the liniment of soft soap, using a stiff bristle nail brush."

When the disease is mild and the scaly patches are few in number and the parakeratosis is slight in degree, he obtains good results from the following:

℞	gm		
Chrysarobini	1	or	gr. xv
Liquoris guttæ perchæ (N. F.)	10		ʒiiss

M. et Sig.: Apply at night, with a camel's hair brush.

In a few days the resulting inflammation causes increased desquamation.

When the psoriatic patches are completely denuded of scales he advises the use of a white precipitate ointment such as:

℞	gm		
Hydrargyri ammoniati	1		gr. xv
Phenolis	2.50	or	
Balsami peruviani	2.50		ää, gr. xl
Petrolati albi	45		ʒiss

M. et Sig.: Apply at night rubbing in well.

When the disease is severe, especially in regions where there is usually marked thickening, Kanoky says that nothing is more reliable than Dreuw's ointment. Care however must be taken not to apply it over too large a surface at one time.' The formula is:

℞	gm		
Acidi salicylici	10		ʒiss
Chrysarobini	20		
Olei ruscι (Oil of birchwood)	20	or	ää ʒv
Saponis mollis	25		
Petrolati	25		ää ʒvi

M. et Sig.: "Rub in well with a stiff brush for five evenings. Then take hot baths on three successive evenings, using applications of olive oil in the meantime (to soften the skin). Repeat if necessary."

"When there are patches of psoriasis on the face or scalp only the white precipitate ointment should be used, as the chrysarobin is likely to give rise to severe erythema and edema in these regions."

Of all internal remedies Kanoky finds arsenic the most trustworthy, and advises the "Asiatic pill" which is as follows:

℞	gm		
Arsenι trioxidi	0.25		gr. iv
Piperis	2.50	or	gr. xl
Pulveris gentianæ compositi			
Glycerini	ää q. s.		ää, q. s.

M. et fac pilulas 100.

Sig.: Commence with one pill before each meal, and increase one pill every second day until the full physiologic effect is secured. Then decrease one pill a day every second day.

There is no chemical or pharmacologic reason why this preparation of arsenic should be any more valuable than any other preparation. The very fact, as Kanoky states, that the average person may take more arsenic in this manner than in any other way shows that the pills do not readily dissolve and the arsenic does not get into the system. In pushing arsenic for physiologic effect either very soluble tablets or a liquid preparation as Fowler's solution, should be the preparation selected. It is not a question of how much arsenic a patient can take before getting physiologic effect, it is a question of obtaining the physiologic effect, and if one drop of Fowler's solution will do as much as two or three of the "Asiatic pills" it simply shows that the "Asiatic pills" are not absorbed. Also, arsenic should be given after meals, and not before. Hence the best preparation is:

℞	c.c.		
Liquoris potassii arsenitis	25	or	fʒi

Sig.: One drop, in water, three times a day, after meals.

Increase this dose one drop a day, viz., give four drops the second day, five drops the third, and so on, until the physiologic action is in evidence, that is, until any of the following symptoms appear. Pain in the stomach, nausea, vomiting, diarrhea, reddened eyelids, or puffing under the eyes in the morning. Any of these symptoms should cause the arsenic to be stopped for a day or two and then begun at a smaller dose than that which caused the effect. Also the urine should be frequently examined for albumin and blood.

Kanoky says that the effect of arsenic is not only curative, but prophylactic as well, and it should be repeated at intervals long after the attack has subsided.

If arsenic fails to produce satisfactory results, he advises the use of potassium or sodium iodid.

He states that thyroid extract sometimes exerts an almost magical influence in this disease. It should be remembered that the dose of thyroid should not be large, a small dose should be taken for a considerable length of time to cause beneficial systemic results. Large doses or even medium doses long continued, may cause serious disturbances.

℞	gm		
Glandularum thyroideorum siccarum	2	or	gr. xxx

Fac capsulas 20 (dry).

Sig.: 1 capsule, with water, three times a day, between meals.

"In stubborn, obstinate psoriasis the *x* ray and chromotherapy may be used with advantage."

Shampoo Mixtures.

As a physician is occasionally asked to prescribe something for use as a hair tonic or to cleanse the scalp, and is likely to refer the patient to a druggist or to advise some proprietary preparation because he knows of no suitable formula, the following may be of service.

observed during our dissection of mosquitoes that with the sudden advent of the cold season the filarial larvæ inside the mosquito became quite sluggish or died and we hardly met with any fully mature forms at this time

Nocturnal Periodicity

The M F prevalent at Puri have nocturnal periodicity We have rarely found any M F in the morning blood taken even at about 6 a m in cases which show a high number in the night Nor have we observed any gradual rise in the number of M F in the peripheral blood in many of the cases that we examined Beginning investigation with the venous blood of these cases during the daytime we found that when prepared in a special way (by Staubli's method of hemolysing the blood with 15 times its volume of dilute acetic acid (3 per cent) and centrifugalising the same) (a) M F may be found in the venous blood during the daytime when they are absent from the capillary blood of the finger, (b) M F may be found, though rarely, in a very small percentage of cases, in the venous blood even in cases of advanced elephantiasis whose finger blood is negative, (c) M F abound almost equally in the venous and capillary blood during the night

Whether M F have any predilection for venous blood we are not in a position to say On keeping fresh coverglass specimens of capillary as well as venous blood in an incubator we observed no marked difference as regards the longevity of the M F in the two sets of specimens

Thus it would appear that when M F were absent from the finger blood they were not always absent from the peripheral circulation and were widely distributed in the peripheral venous blood "Drs Rivas and A Smith are of opinion that during the night when the "wheels of life" are slow the M F which are "mere passengers" in the blood stream tend to accumulate in the capillary blood vessels, but during the daytime when the circulation is active they get into the circulation and are widely distributed in the blood stream We have shown that they can be obtained from centrifuged venous blood during this time The fact that sheathed M F have got no powers of locomotion and are mere passengers in the blood stream has got to be borne in mind in explaining the nocturnal periodicity We know from morbid anatomy that the capillaries of the lung, of the brain, of the muscle fibres, of the heart, and of the malpighian tufts of the kidneys are the favourite habitats of M F It is quite possible that they are carried by the blood stream to these places which are their resting places M F which have got no sheath and are progressively motile may not show any periodicity

The various species of M F can be examined in this light as follows —

M F	Sheath	Periodicity
M F bancrofti, Cobbold	Present	Present, nocturnal.
M F demarquaii Manson	Absent	Absent.
M F taniguchi, Penel	Present	Present, nocturnal
M F powelli, Penel	Present	Present, nocturnal
M F perstans	Absent	Absent.
M F philippinensis	Present tightly fixed to the embryo (Embryo progressively motile)	Absent
M F loa	Present	Present, Diurnal

The appearance of M F in the peripheral blood after dusk and their retention in the finger capillaries up to about 9 or 10 a m, and the reversed periodicity of M F bancrofti in Fiji only furnish a proof of the complex epidemiological law of co-relationship and adaptation between the parasite and its host, which exists abundantly in nature

Microfilaria in Man and in the Mosquito

Our observations on M F in man and in mosquitoes are based upon innumerable blood examinations for the last 15 months and about 700 dissections of mosquitoes

We are of opinion that the M F we find prevalent at Puri resemble more the M F philippinensis described by Ashburn and Craig (1906) in some details of structure and development than the typical M F bancrofti Like the former it is (1) provided with a tightly fitting sheath visible only at the anterior and posterior extremities, and we have failed to see any slipping backwards and forwards of the worm inside it during ecdysis, (2) is provided with a fine tapering tail-end, which disappears later in development as will be seen in the succeeding diagrams in this paper, and (3) when developing in *Culex fatigans* the stages are somewhat similar to those of M F philippinensis

Nightly counting the M F in a series of cases we have found that —(1) The distribution of M F in the peripheral blood is maintained at an almost constant level, with sudden increase in their numbers now and then (2) These rises are not connected in any way with the phases of the moon or external clinical manifestations of filariasis (3) During filarial fever some cases show a decrease of M F in the blood (4) During the "sudden-rise period" some cases show a number of straight and thin M F along with the ordinary variety (5) The inner mass of cells is more developed and prominent in the stouter M F and was particularly so in the M F found from lung specimens

Whether these sudden rise periods synchronise with the breeding of fresh M F by the

Pharmacology

FRUITOLA.

A Fake Remedy for Gallstones.

WEST ELKTON, OHIO

To the Editor —A neighboring practitioner has been giving treatment for gallstones, his patients paying him $50 if they pass any stones I think the remedy he uses is sold under the name of "Fruitola" The patients are said to pass hundreds of gallstones after using it Have you any account of the stuff? I think the concretions, which pass without pain, are soft and float when fresh I believe that olive oil is the bulk of the remedy A. W Y CONARROE

ANSWER —Fruitola is a "patent medicine" which is alleged to have the wonderful power of relieving appendicitis or any intestinal inflammation without an operation It is also said to be a system cleanser, to remove gallstones and to cure all stomach trouble Dr E E Flagg of Mooreland, Okla, writes us that he has obtained identically the same results with large doses (2 ounces) of olive oil

When olive oil was suggested for the treatment of gall stone colic, it was noticed repeatedly that after its administration the patient passed a considerable number of small lumps which were supposed to be gallstones Chemical examination of these concretions showed, however, that they mainly consisted of soap which had been produced by the digestion of the oil This observation has since been made use of by nostrum manufacturers to convince physicians and their patients of the efficiency of their preparations in securing the expulsion of gallstones A simple examination will usually show the true nature of these bodies, since they disintegrate readily when stirred in water It is probable that they consist of fecal matter mixed with the mass of soap

The value of olive oil in painful affections of the gastro intestinal tract is well established and there is much clinical evidence to its soothing action in cases of gallstones, but the physician should not be misled into supposing that he has secured the elimination of a large number of gallstones because the patient passes a large number of lumps of soap, and he should be equally cautious in admitting the claims of the nostrum manufacturers that their remedies secure the passage of gallstones unless he has the opportunity to examine and test the stones for himself

'ETHICAL SPECIALTIES"

Pullen Richardson's Nostrum Nomenclature a Display of Verbal Pyrotechnics

Dr F O Young Lexington Ky, sends us a pamphlet put out by the Pullen Richardson Chemical Company, of St Louis, with the laconic comment "This is the largest 'bunch' I have ever known one house to get out." The "bunch" referred to is a list of

ETHICAL SPECIALTIES FOR THE PRACTICAL PHYSICIAN

Here they are, or at least some of them

Acigestine	Broncodine.	Hemarobin	Pinastrin
Alkagestine	Buchurine	Ironidine	Thebaline
Alkamenthine	Calciodine	Mannealine	Turpoline.
Boromenthyline	Ferrocin	Paskoline	
Bromoftoine	Glycogine	Petrolidine	

To relieve the monotony of "ine" endings we have such as

Casenol	Neocol	Picadol	Phosphoiax.

Hypnotics

Probably in no other department of therapeutics can there be found such a contrast between methodical application of science to the discovery of new remedies and the haphazard, unscientific methods by which their clinical value has been determined than in the discovery and use of hypnotics While the production of these remedies has been made possible by most careful experimentation and the intelligent application of chemical theory their use has been determined largely by blind dependence on the interested statements of the manufacturers and by hasty trials made in all sorts of cases without any systematic determination of the special cases to which they are best adapted This fact is emphasized in a review of progress in this field by A Homburger (*Med Klinik*, Nov 3, 1907)

In hypnotics the relation between chemical constitution and physical properties on the one hand and pharmacologic activity on the other has been so carefully worked out that certain laws can be formulated by which it can generally be predicted in what direction the hypnotic power of a certain substance will be modified by a change in its chemical constitution[1]

In marked contrast to a systematic working out of a scientific basis for the preparation of new remedies in the chemical laboratory is the fact that the clinical application of these remedies, introduced under proprietary auspices, has been without plan, empirical and confusing

As Homburger says "Very soon after the introduction of a new preparation there is sure to be a genuine flood of articles in medical journals, to the effect that the remedy has shown itself reliable and relatively harmless, and presents a gratifying addition to our therapeutic resources, 'gratifying' means in this connection merely that a new possibility for aimless changes in remedies is greeted with a feeling of relief"

These communications, whose object is to popularize the product for commercial reasons, afford no basis for a just estimate of the value of the remedy and its special indications and contraindications, and give no warning as to the need of caution in its administration

Homburger further calls attention to the fact that the more reliable of these reports proceed, as a rule, from the insane asylums, and concern a class of cases in which the condition of mental excitement gives the indication for a class of remedies different from that which is needed for the insomnia which is frequently encountered in general practice In his opinion, hypnotics are indicated in two distinct classes of cases, in which two equally distinct classes of drugs should be used In the first class, the mentally excited insane person, or the restless individual suffering from physical disease must be put to sleep to avert danger to the physical organism, and in this class derivatives of the alcohol and chloroform groups, such as chloral or paraldehyd, which are easily absorbed and act quickly, are indicated In the second class, the power to sleep, which has been temporarily or periodically reduced, must be restored This may be accomplished by improving the hygienic conditions, regulating the diet, physical therapeutics,

1 *The following principles are laid down by Homburger*

Substances which are active as hypnotics are soluble in oils and in the fatty constituents of the nervous system and they must be somewhat soluble in water and in the body fluids generally to permit of their absorption and conveyance to the nerve centers

The hypnotic power of a substance corresponds to the partition coefficient of its solubility in oil and water which means its solubility in oil *divided by its solubility in water* The higher its partition coefficient the greater its hypnotic power

In bodies belonging to the same class as alcohols etc the compound with the least branched carbon chain has the strongest hypnotic power and the one with the most divided carbon chain has the weakest The introduction of the halogen elements chlorin or bromin into the molecule increases hypnotic strength while the introduction of hydroxyl groups weakens it. *In all these cases* the partition coefficient varies with the hypnotic power In general with some exceptions the introduction of additional radicals of the higher alcohols such as ethyl or propyl increases the hypnotic power and this increase is accompanied by a rise in the partition coefficient but this rise sometimes fails to occur and then the expected increase in the hypnotic power is not observed This is well illustrated by the effect of the introduction of ethyl groups into the sulphone derivative of methane Sulphonal (now official as sulphonmethanum) containing two methyl groups and two ethylsulphone residues has a comparatively low partition coefficient and weak hypnotic power the introduction of ethyl in place of one methyl group forms trional (now official as sulphonethylmethanum) which has a higher partition coefficient and greater hypnotic power The *substitution of a second ethyl group* for the last methyl group forms tetronal (diethylsulphondiethylmethan) but in this case the partition coefficient as well as the hypnotic power becomes less indicating a limit to the increase in hypnotic power by the introduction of the higher alkyl groups

Similar illustrations may be given of the application of chemical principles to synthesis of new hypnotics by which such remedies as hedonal veronal and bromural have been obtained

Hypnotics may be divided chemically into three great groups viz. The chlorinated alcohols and aldehyds the sulphones and the derivatives of urea and other amino compounds Therapeutically, the last two groups appear to be closely allied.

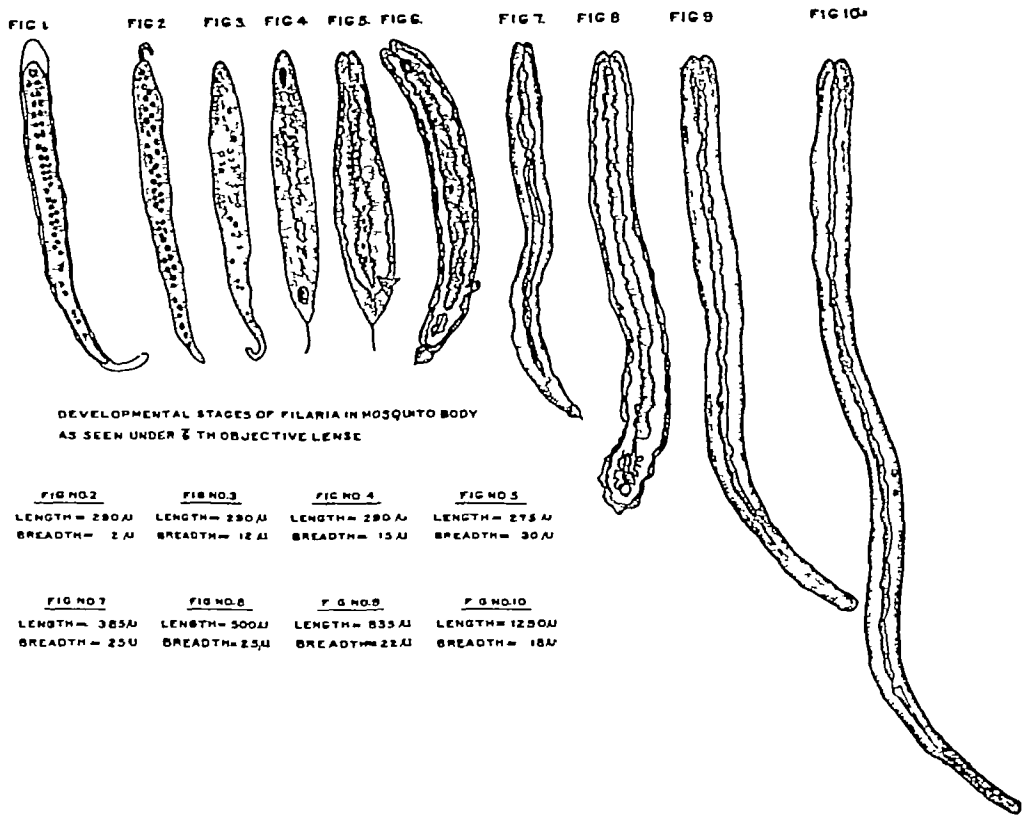
FILARIASIS AT PURI

By S K ROY, M B,

and

S C BOSE, B Sc, M B

Assistant Surgeons Filariasis Research Work Puri



DEVELOPMENTAL STAGES OF FILARIA IN MOSQUITO BODY
AS SEEN UNDER $\frac{2}{3}$ TH OBJECTIVE LENSE

FIG NO 1	FIG NO 2	FIG NO 3	FIG NO 4	FIG NO 5
LENGTH = 300 μ	LENGTH = 290 μ	LENGTH = 290 μ	LENGTH = 290 μ	LENGTH = 275 μ
BREADTH = 9 μ	BREADTH = 2 μ	BREADTH = 12 μ	BREADTH = 15 μ	BREADTH = 30 μ

FIG NO 6	FIG NO 7	FIG NO 8	F G NO 9	F G NO 10
LENGTH = 330 μ	LENGTH = 385 μ	LENGTH = 500 μ	LENGTH = 835 μ	LENGTH = 1250 μ
BREADT = 26 μ	BREADTH = 25 μ	BREADTH = 25 μ	BREADTH = 22 μ	BREADTH = 18 μ

Miscellany

The Sanitary Responsibilities of Public Carriers.

[EDITOR'S NOTE.—We have been asked by the secretary of the Buffalo Academy of Medicine to publish the following correspondence which is self explanatory.—ED.]

BUFFALO ACADEMY OF MEDICINE

To SURGEON GENERAL WALTER WYMAN, U S Public Health and Marine Hospital Service

Typhoid fever is increasingly frequent among the passengers and employés of the steamers sailing on the lakes

An extensive and dangerous epidemic of enteric fever prevailed among the passengers and crews of the S S *Northwest*, the facts being as follows

The S S *Northwest* is a passenger boat of the Northern Steamship Company, plying between Duluth and Buffalo About the first of August cases of typhoid fever appeared among the passengers and employés, the sick being landed at Buffalo, Detroit and Duluth For a period of about three weeks at each stopping place patients were removed from the steamer Many of the passengers were taken ill after leaving the boat and were cared for at their homes or at various hospitals The condition of affairs grew so serious that on August 17 the steamer was inspected by the health office of Buffalo

The milk was found to be foul, the drinking water contained the colon bacillus, and parts of the boat were in an insanitary condition The vessel was supplied with ordinary lake water, possibly drawn from the polluted Detroit or Buffalo rivers The cause of the disease is believed by the health office of Buffalo to be contaminated water

The total number of cases of typhoid fever originating on the *Northwest* is not accurately known as the cases are widely scattered through the country—at Buffalo Detroit, Duluth, New York, Louisville, Auburn Niagara Falls, Hamilton Dunkirk Helena, etc., but it is believed to be about 200 Half the crew was sick As a result of the epidemic there were many fatalities The calamity is the most terrible of its kind known in the history of lake navigation

No inspection of the boat was made by the Marine Hospital Service at this time nor was any attention paid by your service to the catastrophe on the *Northwest* until Dr Irving M Snow and Dr Allen Jones and Hon D S Alexander of Buffalo made a statement to Dr Wyman and asked the U S Marine Hospital Service to investigate the prevalence of typhoid fever on the vessels of the lakes, and especially to report on the conditions existing on the steamer *Northwest* in August 1907 We are informed that the U S Marine Hospital surgeons are now collecting data on the subject In pursuance of your orders Dr Carmichael of Buffalo asked the officials of the *Northwest* to furnish him with a complete list of the passengers and employés of the *Northwest* for the season of 1907 This request was refused by the officials of the corporation owning the boat

A mere tabulation of statistics of the marine hospitals will not suffice We believe that a thorough investigation will show an alarming state of affairs

Nearly all the lake vessels use water drawn from any location convenient at the time The water of the great lakes particularly Lake Erie, is increasingly contaminated by the drainage of great cities—Detroit Buffalo Cleveland Ashtabula Toledo Sandusky, etc Typhoid fever is endemic at Niagara Falls

In the interest of justice and for the protection of the enormous number of tourists sailors and other citizens concerned in the lake commerce we ask that the epidemic of typhoid fever on the steamer *Northwest* be reviewed by skilled specialists with legal powers As an official of the U S Marine Hospital Service has been refused access to important documents by the officials of the Northern Steamship Company we therefore petition you as chief of the U S Marine Hospital Service to appoint a legal board of inquiry with experts and attorneys to investigate the epidemic of typhoid fever on the *Northwest* in August 1907 with power to subpena witnesses to compel the Northern Steamship Company to produce its list of passengers and employés to give in detail the various stopping places locations at which drinking water was pumped source of the milk supply condition of the staterooms cabins quarters of the crews plumbing storage places for food to ascertain if the boat was properly inspected by the United States officials and the officials of the steamer

We also particularly urge that the health of each passenger and employé of the *Northwest* be ascertained by correspondence or direct inquiry so that an accurate list of patients and of fatalities may be compiled for your information

We also request you to consider the advisability of a federal law compelling all steamers on the great lakes to serve distilled water to their passengers and employés

TREASURY DEPARTMENT

WASHINGTON, D C, Nov 20, 1907

DR ALLEN A JONES, President, and DR HARRY R TRICK, Secretary, Buffalo Academy of Medicine, Buffalo, N Y

SIRS —I beg leave to acknowledge receipt of your communication, in behalf of the Council of the Buffalo Academy of Medicine, transmitted to me by the Hon D S Alexander and inclose herewith a copy of a letter this day addressed to him by myself which explains itself

I desire, through you, to thank the council for the communication, which so forcibly sets forth the importance of this matter, and as stated in my letter to Mr Alexander I am giving the matter most earnest administrative attention and hope to be able soon to inform you of the action taken

Respectfully, WALTER WYMAN, Surgeon General

TREASURY DEPARTMENT

Nov 20, 1907

HON D S ALEXANDER, House of Representatives, Buffalo, N Y

MY DEAR SIR —I beg leave to acknowledge receipt of your letter of November 12, received here on the 14th, enclosing a resolution passed by the Buffalo Academy of Medicine "respecting the increase of typhoid fever among passengers and employés sailing on the Great Lakes"

Recognizing the great importance of this subject, immediate attention was given by the Bureau to your former letter of October 4, and reports have been required of the medical officers located in the various ports on the Great Lakes These reports are now being received, tabulated and summarized, to establish ground for radical action in the matter The inquiry relates not only to statistics of the marine hospitals, but of the cities on the Great Lakes in which they are located

I am writing to the council of the Buffalo Academy of Medicine assuring them that the matter is now receiving administrative action, based on the valuable suggestions made by them and the medical officers who are submitting their reports

Respectfully,

WALTER WYMAN, Surgeon General

BUFFALO ACADEMY OF MEDICINE

BUFFALO, N Y, Jan 7, 1908

DR. WALTER WYMAN, Surgeon General, U S Public Health and Marine Hospital Service, Washington, D C

SIR —Allow me to express the thanks of the council of the Buffalo Academy of Medicine for your prompt and courteous reply to our recent communication regarding typhoid fever on the Great Lakes

We desire to give this subject the greatest possible publicity, and I have been instructed to forward a set of these resolutions to the principal medical society in each port of call along the Great Lakes, and if agreeable to you to publish these resolutions and our correspondence in THE JOURNAL of the American Medical Association

May I ask if your investigation has yet developed anything that you consider worth reporting at our next meeting?

Again thanking you for your kindly cooperation, I remain,

Yours respectfully, HARRY R TRICK

TREASURY DEPARTMENT

WASHINGTON, D C, Jan 27 1908

DR. HARRY R. TRICK, Secretary, Buffalo Academy of Medicine, Buffalo, N Y

DEAR DOCTOR —I desire to acknowledge the receipt of your letter of the 7th instant, requesting information as to whether the investigation of typhoid fever on vessels engaged in interstate traffic has thus far been productive of definite results

In reply you are informed that this question has received attention in my annual report for the fiscal year 1907, which is now in the hands of the public printer It is stated that, while the investigation has not as yet been completed sufficient facts have already been established to demonstrate the necessity of Federal surveillance over these vessels engaged

canal opening is also visible near the posterior extremity (Fig 6)

From this time forward it rapidly lengthens in size but diminishes in breadth The alimentary canal is seen almost from end to end of the worm The anterior extremity develops four lips and near the posterior extremity some differentiation of cells is noticed By the fifteenth or sixteenth day the developed M F migrate to the head parts of the mosquito, in which position they can be found in increasing numbers at this time

It takes about 18 to 20 days to complete the stages of development and the final stages are from 1|25th to 1|20th of an inch in length

Treatment of Filariasis

Our treatment of filariasis at Puri has been specially devoted to (a) cases with M F in blood, and no other clinical manifestation of the disease (b) cases of periodical fever and lymphangitis and (c) cases of elephantiasis and was practically limited to antimony

M F are difficult to extirpate from the blood From our experiments upon the living M F by injecting various toxic and antiseptic solutions—*e g*, antimony solutions of different strengths, novarsenobillon, soamin, quinine sol (5 per cent), hydrarg perchlor (1 in 500), emetine, formalin sol (1 in 20), eusol, iodine solution, etc, we have found the M F to be a very resisting embryo, being more susceptible to formalin, iodine and strong antimony solutions than to other reagents

Our experience in the treatment of filariasis with antimony and other drugs has been as follows —

(1) *Colloidal antimony* injected intravenously, almost daily, in doses of 5 c c and pushed up to a total amount of about 97 c c had no effect on three cases whose initial number of M F in 0 5 c mm in a hæmatocytometer pipette varied from 60 to 70 In one case whose initial number was 20 to 30, the number came down to 10 after 100 c c and then to 0 after a few more days, but the case could not be followed up None of the cases showed any reaction

(2) *Thymol* was injected subcutaneously almost daily in doses of 5 to 7 grains in one case whose initial number of M F was 47 The count fell to 30 after 54 grains had been given In other cases of elephantiasis no improvement was noted Reactions noted, were coughing after injection on two occasions, and fever on one occasion

(3) *Sodium margosate* injected intramuscularly in a case with 30 to 40 as initial number, in doses of 1, 2, and 2½ grs given once a week respectively did not produce any effects, moreover the patient got fever and vomiting on each occasion

(4) *Solution of Iodine in Pot iodide and distilled water* containing gr 1.20 of iodine in each minim of the solution injected intravenously in doses of gr ½ to gr 1 daily up to even 15 grs had absolutely no effect in bringing down the number of M F in two cases with an initial number of 15 to 25 nor did it cause any diminution of elephantiasis in four other cases

(5) *Sodium Antimony Thioglycollate,* a drug used with success in experimental trypanosomiasis in America was found very efficacious in extirpating M F We tried the drug intravenously in 5 cases all of whom showed some improvement and in one M F disappeared from the blood But the stock of our drug ran short and we could not follow up the treatment, owing to the drug not being available in India

(6) *Sodium Antimony Tartrate* 2 per cent sol is the drug which we have found most efficacious in filariasis We administer it almost daily in doses commencing with 2 c c and rising to 5 c c Injections are only suspended for a very short time on the occurrence of severe reactionary symptoms such as fever, or joint pains The occurrence of severe cough or vomiting after injection is also a warning to decrease the dose next time

The following statement summarising our results in 8 cases of filariasis will speak for itself —

Case	No of M F before inj	Period & amount of inj	Date and No of M F just after inj	Period of observation after inj	Subsequent No of M F
No I	Average 300	(*a*) 10 5 20 to 6 6 20 68 c c	6 6 20 91	6 6 20 to 30 12 20	0 to 6 Average 2
		(*b*) 18 10 20 to 5 11 20 47 c c.	5 11 20 2		
No II	20 to 40	17 10 20 to 7 11 20	6 11 20 2	7 11 20 to 20 11 20	2 to 1 Average 1 4
No III	100 to 170	17 10 20 to 7 11 20 43 c c	7 11 20 30	7 11 20 to 17 12 21	2 Average 2 4
No IV	10 to 30 average 20	17 10 20 to 18-12 20 73 c.c	19 12 20 1	18-12 20 to 6-4 21	
No V	Average 50	19 10 20 to 26 1 21 83½ c c	27 1 21 0	27 1 21 to 27 2 21	0 to 8 Average 5
No VI	30 to 56 average 50	19 10 20 to 21 2 21	21 2 21 0	21 2 21 to 18 1 21	0 to 2
No VII	20 to 30	19 10 20 to 21 2 21	21 2 21 4	21 2 21 to 18-12 21	0 to 5
No VIII	Average 60	17 10 20 to 26 1 21	27 1 21 50	21 1 21 to 18 12 21	0 to 5

It is noteworthy that Daniels in his book on Tropical Medicine and Hygiene remarks —"It has been noticed that in the course of treatment (of trypanosomiasis) of persons with *Filaria* by injection of atoxyl *or tartar emetic the embryos have disappeared permanently from the blood without any bad effects*

Journal of Clinical Medicine is the only periodical in the country, issued as a scientific medical journal, for which a regular subscription price is charged, whose real function appears to be to promote the sale and use of the products manufactured by its owners Its only prototype was the *Medical Brief* in its earlier and palmier days

Commercializing Membership in Medical Societies.

No one will dispute that it is unbecoming to use one's professional relations and associations as a means of commercial aggrandizement Making capital of religious connections utilizing membership in a fraternal organization for commercial benefit, turning club affiliations into a financial asset—all such practices are justly held in the contempt they deserve There devolves, too, on members of all learned professions an obligation, implied rather than expressed, to refrain from using the profession for commercial gain, and in the profession of medicine this principle constitutes one of its most hallowed traditions

As physicians, Drs Abbott and Waugh have attended society meetings, as pharmaceutical manufacturers they have utilized such meetings to give publicity to their products This fact has usually been kept carefully in the background, at least, the promotion of their business, in most cases, has not been carried on openly Medical societies have tolerated in Drs Abbott and Waugh what they would not have tolerated for a moment in those who are frankly and openly commercial men These two men, the president and vice president, respectively, of this pharmaceutical concern and devoting practically their whole energies to it, who are not in active practice, in the accepted meaning of the term, have attended more medical society meetings within the past year than any other two physicians in the country In many instances, not only one, but two, three and even four members of the firm have attended meetings In one instance, that of an Illinois medical society meeting, Drs Waugh, Abbott, Eppstein and Lanphear were present and openly advocated the use of an Abbott product, the three former being members of the company the latter an attaché It is remarkable that in only one instance did the members of a society recognize the true object for which these "invited guests" were present[1]

We know of no reason why the president and the vice president of the Abbott Alkaloidal Company should have had the courtesies in this regard extended to them simply because they are physicians, any more than the president of the Eusoma Chemical Company, of the Organic Chemical Company or of the Reed & Carnrick Company, all of whom are physicians and some of them members of medical societies Suppose these gentlemen should make a practice of attending medical society meetings and of taking part in discussions, improving every opportunity to extol their products, how long would it be before a justly indignant and outraged profession would inform such intruders that a medical society was not the place in which to secure gratuitous advertising?

Commercializing Medical Literature

DR ABBOTT'S LITERARY FECUNDITY

While the president of the Abbott Alkaloidal Company is not in active practice he has been most liberal in giving the profession his experiences, for he has contributed more original articles to more medical journals than any other man in the country He has not hesitated to enlighten our profession on all kinds of subjects, nor has he been particular regarding the journals he patronized—regular, homeopathic and eclectic, all were favored by him We give below a partial list of the articles that appeared under his name during the year 1907 As there are many journals not received at this office, we have no means of knowing the sum total of his contributions to medical literature The list does not include his articles that appeared in his own journal, nor his productions that were published as "reading notices" or in "publishers' departments," nor do they include communications in the "correspondence" departments, and there were many of these, for no opportunity for such advertising has been neglected

LIST OF ORIGINAL ARTICLES BY DR W O ABBOTT PUBLISHED IN 1907

TITLE OF ARTICLE.	PUBLICATION
Why Drugs Are Neglected.	Woman's Med Jour January
Solanin A Useful Remedy in Epilepsy	Merck's Archives January
Bronchiectasis	Denver Med Times January
Therapeutic Points	*Colo Med Jour February*
Preventive Medicine	Medical Bull February
Abnormal Perspiration Drug Indications	Toledo Med and Surgical Reporter March
Scarlet Fever, Therapeutic Pointers	Medical Times March
Importance of Vasomotors	Jour Ark Med Soc March
Tonsilitis.	Amer Med Compend March
Tonsillitis (different from preceding)	Illinois Med Bull April
Pruritis Ani	Dominion Med Monthly April
Vomiting Its Therapeutics	Chicago Med. Times April
Asthma Its Therapeutics	Kansas City Med Rec April
Hyoscin Anesthesia	Toledo Med and Surgical Reporter April
Gallstone	Lancet Clinic April 20
Sunstroke	Jour So Car Med Assn, April
Exudations.	Wis Med Jour April
Roseola Drug Applications.	*Central States Med Monitor*, April
Syphilis Its Therapeutics	Medical Bull May
Therapeutic Means for Relief of Spasm	St. Louis Med Review May 18
Cataract.	Amer Med Compend June
Diet and Common Sense in Treatment of Dropsies	Diet. and Hyg Gaz, June.
Treatment of Boils	Amer Med. Jour, June.
Mosquito Inhibition	Texas Med Jour June
Plea for the Average Doctor	Chicago Med Times July
Iodin	Atlanta Jour Rec. of Med July
Phthisis—Drug Applications.	Vermont Med Monthly August.
Treatment of Typhoid Fever	Carolina Med Jour September
Hyoscin Morphin Anesthesia.	Chicago Med Rec September
Infection of Steno's Duct.	Columbus Med. Jour September
New Anesthetic and Forceps	Medical Times September
Pleurisy—Drug Indications	Dominion Med Monthly October
Phlebitis—Drug Treatment.	Amer Med Jour October
What is a Dose?	Toledo Med and Surg Reporter October
Rheumatic Arthritis.	Denver Med Times and Utah Med Jour October
Remittent Fever — Therapeutic Suggestions	Med Bulletin November
Rheumatic Fever — Therapeutic Hints	Amer Med Compend November
Urinary Ailments	Texas Med Jour November
Worms.	West Virginia Med Jour November
Influenza	Southern Med and Surgery, November
Amenorrhea Therapeutics	Southern Clinic, November
Puerperal Convulsions	Cleveland Med and Surg Reporter November
The Therapeutics of Ozena	Albright's Office Practitioner December
Scrofula Its Therapeutics	Medical Summary December
Rectal Affections Some Therapeutic Suggestions	Carolina Med Jour December
Use of Opium in Preference to Its Derivatives	Journal of Inebriety December
Modern Treatment of Pneumonia	Kansas City Med Record December

These are original articles that have appeared in medical journals as the productions of one man during a single year by a man who for years has been out of active practice and busily engaged in commercial lines[2]

1 This was at the meeting of the Kentucky Valley Medical Association last June for which Dr Waugh had secured an invitation to read a paper Instead of the paper—an unwritten one by the way—being a calm unprejudiced presentation of scientific fact it proved to be but an exaggerated panegyric on the company's product H M C (Abbott) Nor was this all Dr Abbott himself though uninvited was present to do what service was possible to the interest of the house *It happened that the physician who had been asked to open the discussion considered that he was present for the purpose of discussing a scientific question and not tacitly to aid in advancing the interest of a business firm* He questioned therefore the propriety of placing on a scientific program the name of any such manufacturer's agent. Another speaker suggested that the American Medical Association button on the lapel of Dr Waugh's coat was conspicuously out of place at that time The result was a most interesting discussion though one such as the gentlemen from Chicago had not expected The full report of this meeting was published in the *Kentucky State Medical Journal* for October 1907

2 Besides being president of the Abbott Alkaloidal Company and the Clinic Publishing Company Dr Abbott is president of the Tengwall Pile and Ledger Company now known as the Tengwall Company and it is alleged controls the business Recent developments show that he was vice president and the controlling spirit of the Ravenswood Exchange Bank He was if he is not now, actively interested in a certain silver mine in Colorado and also in selling stock in this mine to physicians.

of the period exactly on the same percentage basis as our own investment

"We take all the risk and admit you on an even percentage basis with ourselves What better do you want? What safer insurance could you have? What more could you ask for? Do you want it?

To those who were using the company's products or who had confidence in the firm, the temptation to invest certainly has been great According to the advertisements, these "bonds" have all the advantages of absolute security and safety that attaches to guaranteed bonds, both as to principal and interest, and in addition the speculative possibilities that lie in ordinary stocks An ideal investment, certainly, and one in which many physicians may have invested, not thinking of the ethical side of the question How many, of course, we do not know We have been informed that one of the officers of the company stated last fall that there had been over $125,000 00 worth of these "bonds" sold In any event, there appeared in the Chicago *Tribune* of Feb 12, 1908, and in other papers at about the same time, a statement by Mr Cleveland, chairman of the depositors' committee of the Ravenswood Exchange Bank (of which more later), to the effect that the company

"owed among other items $100,000 00 on personal notes of $100 or thereabouts, held by 1,000 physicians throughout the country"

Suppose there are only 1,000 physicians who invested, what does it mean? A prominent physician wrote last fall

"Dr Abbott told me while at Atlantic City that the bond proposition he was offering the profession was the greatest cooperative scheme ever offered, that it made an agent of every doctor who purchased a bond."

Undoubtedly this is a correct statement of fact As bearing on this idea, read this

> "Do you want to make an investment that is safe and that *you can help to grow*? If so use the application blank as indicated, agree thereon to do exactly what you can and will do—*do your part* and we'll do ours" [The italics are ours]

Very suggestive, certainly *You* can help to make the business grow And what will the harvest be? Read the answer in this quotation

> "And the result? Let 1,000, 5,000, 10,000 earnest, honest doctors *pull together*, day by day, month by month and year by year *for the common good* and the result will answer the question" [Italics ours]

There can be no misunderstanding as to what is meant. "Pull together for the common good" How? By giving the Abbott Alkaloidal Company your money to put into its business and by prescribing and pushing its products Grand scheme—for the Abbott Alkaloidal Company

THE BONDS" ARE NOT BONDS

There is another and more practical aspect to all these profit sharing schemes than that of morals or ethics Will it pay? Is the stock a good investment? Are the bonds safe, or are the people offering them telling all the facts? This is a business proposition How many physicians looked into this particular "bond" business to see what they were buying? How many examined the so called "bond" to learn what was the "guarantee" that was so prominent in the advertising literature, what security was back of it? We submitted one of the bonds to our attorney, who on October 9, rendered the following opinion

From such examinations and assuming that the blank spaces for name and sums and signature are duly filled out *we are of the opinion that the so-called bond would not in fact be a bond guaranteed as that term is understood by investors*

1 The bond is not negotiable It is expressly made non transferable hence it lacks one of the prime requisites of an investment bond In other words it is not a bond which can be sold or pledged as other corporation bonds can be and would therefore be of no market value

2 A bond issued by a private corporation to be of any value as a marketable bond as the word bond is usually understood should be secured on real or personal property of adequate value This bond does not purport to be secured in any such manner *It is of no greater value than a simple unsecured promissory note for an equal amount*

3. It is designated as a guaranteed 6 per cent. coperative bond. but it is evident that the term guaranteed as so used is calculated to mislead for there is no guarantor named As the term 'guaranteed is ordinarily used as to bonds and negotiable instruments it means that some person or corporation of greater financial ability than the maker of the bond guarantees the payment of the interest and principal at maturity There is here no such guarantor The word guaranteed by the maker of a bond adds nothing whatever to the simple promise to pay interest

4 Apparently the term guaranteed as used in the so-called bond means that the Abbott Alkaloidal Company if solvent and able to pay when interest matures will pay interest at 6 per cent. per annum quarterly in cash but if the Abbott Company should fail there is no one else who can be called on to pay the interest in default.

5 The coupons attached to the bond and designated 'Special Annual Cooperative Profit sharing Dividend Coupon will entitle the holder to a special profit sharing dividend as soon after Oct 1 1905 and 1906 as the annual account has been completed to determine the amount of such dividends and the same has been declared and fixed by the board of directors

The account may show losses instead of profits and it may never be completed so as to determine the dividend or such dividend may never be declared and fixed by the board of directors Therefore the so-called coupon is of no present value

Thus, these "bonds" are simply unsecured notes, nothing more If the company prospers, they will be paid Really, they are not as good as ordinary notes, for notes can be sold or transferred, these "bonds" can not So far as we can learn there seems to be no limit to the number that may be issued, so that the amount of "security" behind each "bond" is exceedingly uncertain

It is possible that the statements in the advertising literature, some of which we have quoted above, regarding the safety of these "bonds" were honestly made, that the company intended to carry out the proposition and fulfill its promises in every particular—if it could But is it giving physicians "a square deal" (to use the term so constantly employed by the company) to call these unsecured notes "guaranteed profit sharing bonds" to convey the impression that they are absolutely safe? Was it honest for Dr Abbott to make definite, positive promises which he or his company might not be able to carry out?

"DOCTORS FOR DOCTORS, AND FOR EVERYBODY A SQUARE DEAL."

The above is the title of a circular signed "Dr W C Abbott," sent out last October It is illustrated with pictures of the plant, including the one in course of erection There is also an application blank for the "Guaranteed Cooperative Profit Sharing Bonds (series three)" It is a most "fetching" advertisement of the "bonds" The last sentence, which stands out by itself, is

> "Our interests are mutual, push 'em along"

It contains such sentences as these "A provision for 'the rainy day' that will beat the bank—positive safety, honorable treatment, a square deal—genuine reciprocity" And there stands out in heavy black letters

"And every dollar goes into buildings and equipment, increasing your already ample security"

The sentence just quoted can be read in only one way, and that is that the money received for the "bonds" is to go into buildings and betterments

ABBOTT TRANSFERS PROPERTY TO OWN ACCOUNT

Now, what about the property in which it is alleged so much money has been placed? What about the building into which the money from these bonds was to go? And what about the "security" back of the bonds? The pictures in the recent circulars advertising the "bonds" show three buildings—one in course of construction These buildings are on land in Ravenswood that has a frontage of approximately 238 feet, with a depth of 163 feet When the 'bonds" were first issued, Oct 1, 1905, the records show that all this property—the 238 feet—was in the name of the Abbott Alkaloidal Company But the records also show what the advertisements do not show, viz, that on May 10, 1906, 168 of the 238 feet frontage was transferred by the Abbott Alkaloidal Company to W C Abbott the deed being signed by Wallace C Abbott, its president and Louis P Scoville, its secretary, and to day, March 4, 1908, it is still in his name The records also show that a mortgage of $30,000 00 was put on the property after it was transferred to Dr Abbott, and that this mortgage is at present unsatisfied. On this property, now in Dr Abbott's own name, there is a four-story modern building, completed about a year ago and also a frame building The four story building is occu

poorest class Arabs, as dirty as they can be, and living and working barefooted, were the victims of the disease While under treatment in hospital they lose their pay and rations, and consequently when the ulcer is on the way to recovery, they disappear during the night and leave the station Many interesting cases have been lost this way, and could not be traced after they had left the station On account of this, only 21 cases could be completely investigated instead of over 50 which were treated

ETIOLOGY

All cases were in the personnel of the M L B, except one, which was an Indian driver of a Pack Battery This driver had a septic sore on his ankle to begin with, and was excused from wearing boots

Part affected—All cases without exception were either in the legs, ankles or feet

Age—According to the statements of patients, between 18 and 26 years

Weather—All cases occurred during the months of August, September and October There was no case last winter, and after the end of October, up to January there was not a single case

Spread of the Disease—The spread of the disease by direct inoculation on a healthy skin, and inoculation of the tissue underneath the skin failed The following experiments were performed by the writer on himself—

(a) Direct inoculation About one square inch of skin on the lower part of the left leg was cleaned with normal saline, and wiped dry with sterile cotton wool Then the skin was freely scarified, and the part was inoculated with discharge from an Ulcus tropicum (quite a large amount of discharge being used) The part was allowed to dry up, and then it was bandaged lightly over cotton wool On the first and second times there was slight inflammation, which lasted for two days and healed up without forming any ulcer at all On the third occasion however, a small ulcer developed The discharge on being examined did not show either the Spirochætes or the B fusiformis, there were no pus organisms either, and the ulcer healed up without any special attention and without showing any tendency to spread

(b) Hypodermic inoculation—The discharge was diluted up in warm normal saline, (Temp between 95° and 98° F), and one c c, was injected hypodermically into the lower part of the right leg The part was a little painful in the evening, next morning it was a bit tender, and the next day the part was normal

It is evident from the above experiments that inoculation on a healthy skin, and also inoculation underneath the same (as by some insects), do not produce the sore, so that the spread of the disease must be by some other means I am inclined to believe, that the infection of the skin and the superficial tissue by the organisms of U T is not a primary one, but it is a superimposed one, that the primary infection is a simple septic sore, which is later on inoculated with the organisms of U T, which develop in the decomposed tissue and later on produce their own symptoms, and this second inoculation is probably effected by flies Two attempts were made to produce Ulcus tropicum in this way The septic sores chosen were of small size with abundant discharge They were free from all other organisms except a few streptococci The first was inoculated directly with a probe, and the second by means of flies Flies were fed on U T, and then allowed to remain on the sore for nearly an hour On the first day after inoculation, the first sore was distinctly worse, and the second did not show any appreciable change On the second day the patients had disappeared from the hospital and could not be found in the station, and no further opportunity to perform the experiment again occurred The case of the Indian driver and the histories of onset given by cases 3, 5 and 8 are suggestive As already stated, the Indian driver had a septic sore to begin with He was having treament, he did not attend hospital for two days, and then appeared with this ulcer He said he had a lot of work, so could not attend for treatment, and that for some part of the day he kept the sore exposed Patient No 3, said that whilst working at the incinerator he had a small burn, a vesicle developed, which he cut and allowed the fluid to get out He left the part open, so that it might dry up Flies used to come and sit on the ulcer "Flies always do sit on sores, but do not do any harm," he said Three days afterwards the sore went bad, he applied some local medicine, which was of no use, and he reported sick with Ulcus tropicum on the fifth day

Patient No 5, gave a history of injury while chopping wood He applied some leaves, and the sore was doing well Afterwards he kept the sore exposed "to air" for quick healing, two days afterwards the sore was bad, and he had pain in the part

Patient No 8, also gave a history of a previous sore after injury which developed into U T

ORGANISMS

(a) *Spirochætes*—These are very slender with elongated coils They can be stained with ordinary Leishman's stain The stain is put on for one minute then it is diluted up six times with distilled water, and left for 2 hours, taking care that the stain does not dry up on the slide, then the slide is washed, dried and examined under the high power of the microscope

$110,000 to put into new buildings, etc." Was it an omission in leaving out the 9 per cent dividend in one, or was it a typographical error in putting it in the other?

It will be observed that the preferred stock is to be limited to the very modest amount of $500,000 00, but so far as we have been able to learn there is no limit placed on the "Guaranteed, Participating Cooperative Bonds," unless it be the capacity of the printing press to turn them out and the number of foolish doctors to take them in. In this regard the preferred stock will have an advantage.

The important point overshadowing all others is that in spite of the fact, as revealed by the failure, that Dr. Abbott and his company were most seriously in debt, in spite of the fact that the physicians of the country had already contributed a very large sum—$100,000 00 to $125,000 00, possibly more—by investing in the bonds of the company, in spite of the fact that the greater part of the property of the Abbott Alkaloidal Company had been transferred, in spite of all this, an attaché of the company, evidently with the consent, and at the instigation, of its president, Dr. Abbott, now appeals to physicians to invest in the stock of the company, setting forth as an inducement that this stock is "the best of any safe investment in the country." Is comment on this necessary?

THE PROFITS COME FROM THE DOCTOR.

During the past eighteen months—it may be the revenue from the sale of "bonds" to doctors making it possible—the Abbott Alkaloidal Company has been advertising in medical and drug journals in a most extensive manner, its advertising being in excess of any other pharmaceutical firm. As a result of this advertising campaign its business has been increasing, and with this increase in business has naturally come enlarged profits. Dr. Abbott recently has stated that if he were given time he could liquidate his indebtedness from the profits of the Alkaloidal Company. And here it should be explained that Dr. Abbott's business enterprises ramify in directions other than his business with the medical profession. Which of these enterprises is responsible for his present financial condition and that of his Alkaloidal Company we do not know. It seems, however, that while the losses are not chargeable to his medical business, yet his business with the doctors is expected to recoup all.

THE ETHICAL ASPECT

We have enlarged on the financial aspect of this "bond" business but the main thought must not be lost sight of. After all, the ethical, the professional, side of this wretched profit sharing business is of more importance. It is not a question of whether or not these "bonds" will ever be paid, or whether there will be much, little or no profits to the individual investor. The demoralizing, the degrading influence of this profit sharing in the manufacture and sale of medicines by physicians is more important than any financial loss. If he would stop to think, no physician who has due regard for his duty to the public would place himself in a position in which his own financial interests might warp his judgment as to what is best for those who place themselves in his hands. Dollars are like butterflies that flit from flower to flower but self-respect, that attribute which stamps man a man, is to him as the scent is to the rose. The butterflies may come and go but the odor of the rose remains. The main question therefore is not whether the dollar which has been invested in these bonds or in this stock will return with others but whether with the departure of that dollar goes one's self-respect.

Most of the above matter was practically ready and would have appeared last November or December had not the bank failure occurred. It was then laid aside as we felt unwilling to add to the difficulties of the company or its president. Recent developments however have made it unnecessary to withhold longer the facts we present regarding the various and peculiar methods of the company. Since part of these methods involve the advancement of money by physicians it seems only just and fair that the medical profession should be informed regarding the financial affairs. The facts are known locally, since they have been published in the local press, but they are not known to the doctors of the country, who, under the circumstances, are the ones vitally interested.

Why do we devote so much space to this concern? What is the motive? The same that has prompted us to expose fraud in connection with the nostrum business, that has led us to enlighten the medical profession regarding the various ways in which it is being exploited, and that has caused us to give publicity to facts which physicians ought to know, and which they can not know unless they are enlightened by the journals that represent them. THE JOURNAL is performing the function of one representing a profession, that is, it is enlightening the members of the profession it represents regarding matters of vital interest to the individual and to the profession as a whole.

Book Notices

HOSPITAL TRAINING SCHOOL METHODS AND THE HEAD NURSE. By Charlotte A. Aikens, Associate Editor of the *National Hospital Record*. Cloth. Pp. 260. Price $1.50. Philadelphia: W. B. Saunders Co. 1907.

This book should be of value to head nurses, especially to those filling such positions for the first time. An excellent outline is given of the curriculum for a course in nursing and all points in hospital management are dealt with.

PRIMARY NURSING TECHNIC for First Year Pupil Nurses. By Isabel McIsaac, Graduate of the Illinois Training School for Nurses, Formerly Superintendent of the Illinois Training School for Nurses, Honorary Member of the British Matron's Council, Etc. Cloth. Pp. 197. Price $1.25 net. New York: The MacMillan Company. 1907. All Rights Reserved.

Miss McIsaac's long experience as superintendent of the Illinois Training School for Nurses makes this work of unusual interest. While the book will not take the place of the better known text books of nursing, it should prove a valuable addition to the pupil nurse's library. The language is simple and the subjects are dealt with in a practical manner.

SURGICAL APPLIED ANATOMY. By Sir Frederick Treves, Bart., G.C.V.O., C.B., LL.D., F.R.C.S., Consulting Surgeon to the London Hospital, Fifth Edition, Revised by Arthur Keith, M.D., F.R.C.S., Examiner in Anatomy, Royal College of Surgeons, England, and University of Leeds. Cloth. Pp. 640, with 107 Illustrations. Price $2.25. Philadelphia: Lea Brothers & Co. 1907.

Since the first edition, in 1883, of this little pamphlet, familiar to all students of anatomy and surgery, the field of surgery has been vastly enlarged. The successive editions of this manual have grown in proportion. The present edition revised by Arthur Keith, contains 622 pages, each full of valuable and practical information regarding the anatomy of the body. The book has been carefully revised throughout and much new matter added. It is better printed than the earlier editions and the illustrations are more numerous.

OPHTHALMIA NEONATORUM. By Sydney Stephenson, M.B., C.M., Ophthalmic surgeon to Queen Charlotte's Hospital, London. Cloth. Pp. 258. London: George Pulman & Sons, Ltd. 1907.

This is the Middlemore prize essay given by the British Medical Association during the past year and is the most complete monograph on the subject in any language. Destructive ophthalmia of the newborn can not be too often or too thoroughly considered, either from the medical or lay standpoint. When one remembers that about one third of all blind people owe their misfortune to early ophthalmia and that the disease is in the great majority of instances, preventable, these facts stand as an arraignment of our profession and indicate a neglected duty which it is incumbent on us to perform. In such a crusade Mr. Stephenson's admirable work will be of great assistance. He proceeds in seven chapters, devoted to the etiology, symptoms, diagnosis, prognosis, prevention and treatment of infection, to discuss the matter extensively. The practical surgeon will perhaps be most interested in the section beginning with page 158 and headed "Prevention." In this chapter are discussed the relative merits of the various preventatives of the ocular infection—silver nitrate (in all percentages) silver citrate argentamin protargol argyrol formalin alcohol boric acid, corrosive sublimate—1-4000, etc. In his

NOTE ON THE "RELATIVE RATE OF ABSORPTION OF SOLAR RADIANT HEAT OF SILT LADEN WATERS"

By MAJOR A STEWART, I M S

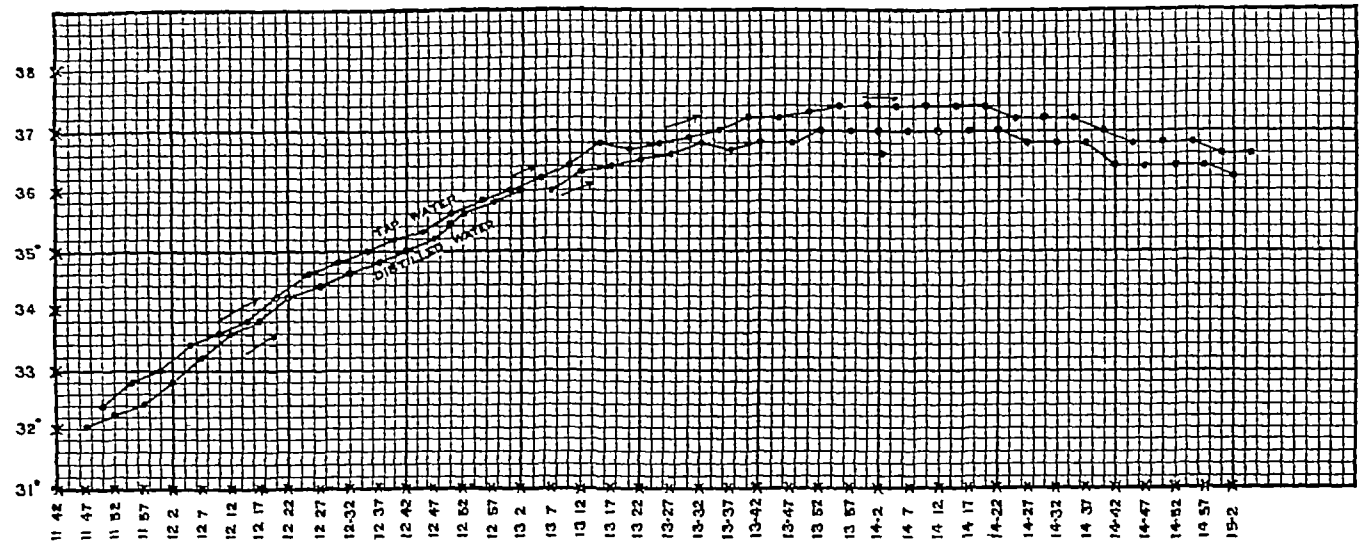


Fig 1

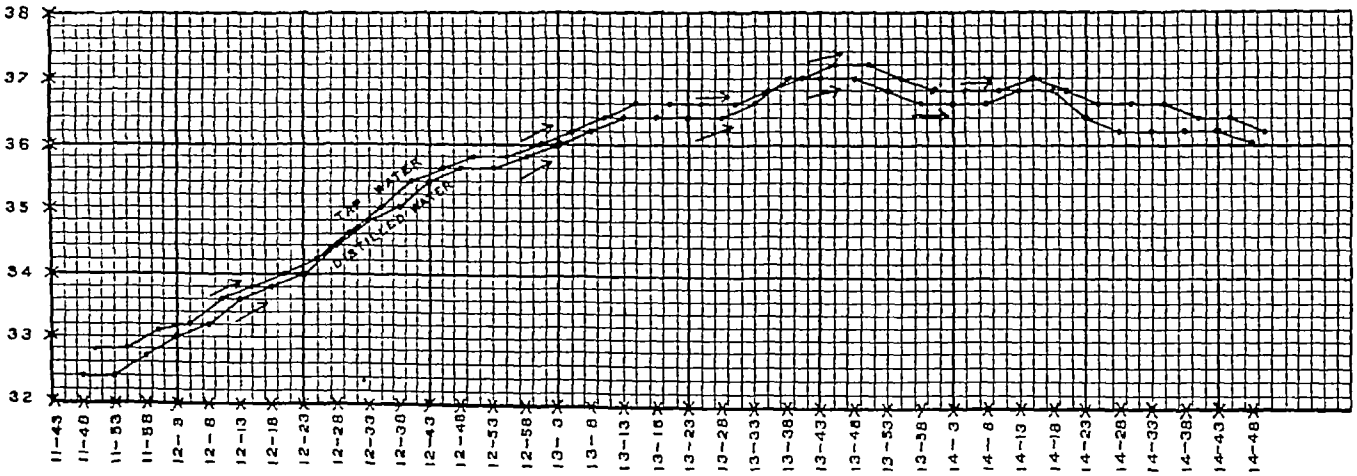


Fig 2

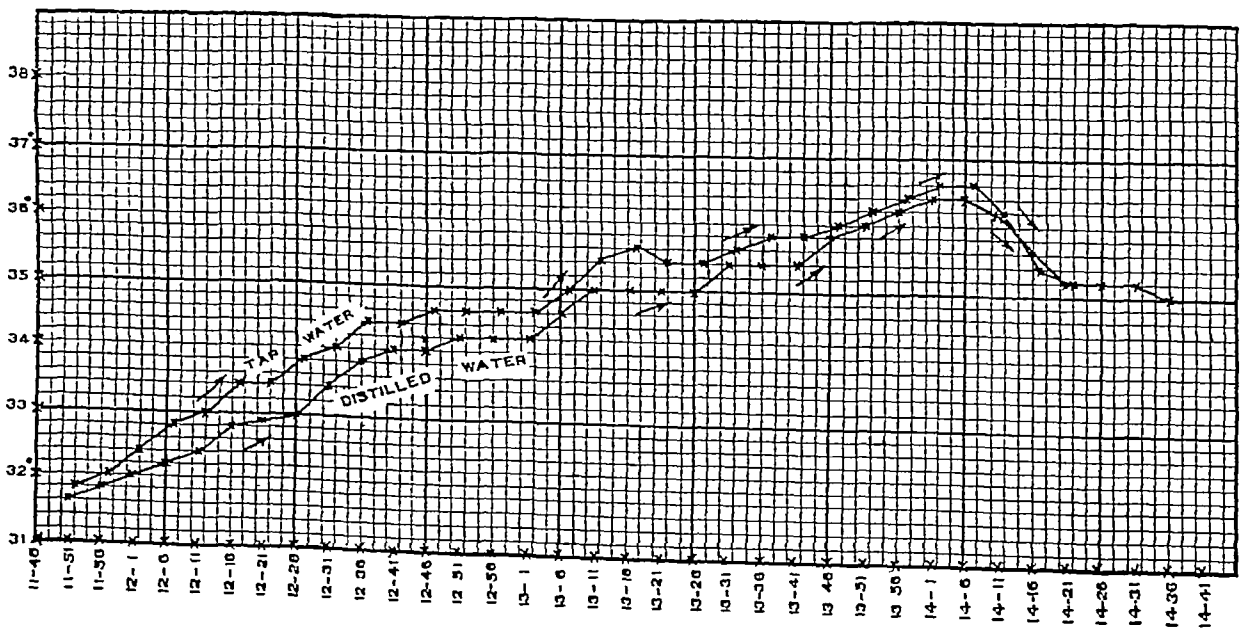


Fig 3

India General Jan 4 11 3 719 cases 2 833 deaths Bombay Jan 14 28 47 deaths Calcutta Dec. 28-Jan 11 29 deaths Madras, Jan 11 24 6 deaths Rangoon Jan 11 18 10 deaths
Japan Osaka Jan 18 25 4 cases 5 deaths
Turkey Bagdad Dec. 28-Jan 18 126 cases 24 deaths.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed Queries for this column must be accompanied by the writer s name and address but the request of the writer not to publish name or address will be faithfully observed.

LIABILITY OF CHARITABLE INSTITUTIONS FOR INJURIES TO PATIENTS

To the Editor —Have you records of any cases against charitable institutions in which damages have been assessed for patients being burned with hot water bottles? This hospital is being sued by a patient who received a large burn from a hot water bottle She was not a charity patient A E. D

ANSWER —According to the decision of Second Appellate Division of the Supreme Court of New York (Wilson vs The Brooklyn Homeopathic Hospital) a charitable institution acting as a hospital having used due diligence in selecting a surgeon is not liable for his negligence in operating on a patient who pays only for his board and attendance and not for the surgeon s services (THE JOURNAL Oct 8, 1904 p 1085)

In Hewett vs Woman s Hospital Aid Association it was held by the Supreme Court of New Hampshire that the hospital although a charitable institution was liable to its servant, a nurse for failure to perform its duty in informing her of the contagious character of a disease in a patient she was required to nurse The charitable character of the institution did not relieve it from the liability for negligence to its employés (THE JOURNAL Nov 10 1906 p 1592)

The Kansas City Court of Appeals holds in Adams vs University Hospital that funds devoted to charity can not be diverted to other objects and hence that a hospital devoted to charitable treatment of the sick can not be held liable either for the negligent acts of its servants or for negligence in selecting them The fact that it also treats certain patients for pay is held to make no difference Numerous cases are cited as authorities for these contentions The case on which this decision was rendered consisted in a claim for damages for injury by the negligent application of a hot water bottle (THE JOURNAL March 30 1907 p 1135)

A decision by the Supreme Court of Utah tends to support the view that if a pay hospital treats a patient gratuitously it still owes him a certain duty (THE JOURNAL April 27 1907 p 1458)

The Supreme Court of Illinois holds that a city is not liable for the negligence of its servants in case a hospital is established for charity or in pursuance of the desire to benefit its citizens as an exercise of police power (THE JOURNAL Nov 23 1907 p 1801)

The Court of Appeals of Georgia holds in Medical College of Georgia vs Rushing that public eleemosynary institutions are liable for the torts of their agents, the same as business corporations if they have any property or are in receipt of any income not exclusively devoted to public charity out of which a judgment against them can be satisfied Where a hospital holds itself out for the treatment of the sick whether this treatment be given as a gratuity or is to be paid for the implication arises that such treatment will be performed in a skilful manner and such hospital will be liable for unskilful or negligent treatment of the patient The question whether a patient is a charity patient or the institution is paid for his treatment the court says does not change the rule of liability if under the law this class of institutions is liable at all (THE JOURNAL, Jan 4 1908 p 70)

HOW TO FORM AN ANTITUBERCULOSIS SOCIETY

BUTLER Mo March 2 1908

To the Editor —We are trying to organize an antituberculosis Society How shall we proceed to carry out our project?
E N CHASTAIN

ANSWER—Every community ought to have such a society the range of whose activities will depend on the importance the disease plays in the community For smaller towns an educational campaign with lectures on the cause and nature of tuberculosis and the distribution of printed literature will be sufficient. Eventually also with headquarters where at stated hours advice can be given to poor consumptives and their families It is important that the membership of such a society consists of both laymen and physicians (men and women) and that it cooperates with other medical and charitable institutions.

Tuberculosis although a germ disease is dependent in its progress on external factors which lower the resistance of the body to infection Against these external factors unfavorable environment noxious occupation crowded ill ventilated dirty dwellings, faulty nourishment and bringing up of children and lastly against indiscriminate spitting the campaign of such a society must be directed A well-delivered lecture or a talk in a family where one member is afflicted with the disease will be of infinitely more value than a pamphlet distributed broadcast. It is especially in the infected family that much good can be accomplished but not only by directing all the attention to the diseased member but especially to the other apparently unaffected members, among whom as we know well by experience, the disease is particularly prone to spread The direction of this work ought to be put into the hands of one individual preferably the office of secretary of the society and as soon as a plan of action has been adopted the employment of a special visiting nurse can not be urged enough for the practical work in the families

The next step might be the formation of a special dispensary as the medical center of the campaign, and finally when much experience has been gained the building of a curative institution, a health camp or a sanatorium ought to be attempted A perfected system of home assistance will do more toward stamping out the disease than the most beautiful sanatorium which concentrates all its efforts on the treatment of the one already diseased

Dr Livingston Farrand the secretary of the National Association for the Study and Prevention of Tuberculosis United Charities Building 105 East 22d Street, New York City will give every assistance in the organization of local societies on request

BOOKS ON PRACTICAL DIAGNOSIS AND TREATMENT

Unfortunately the reply to Dr Bicknell s inquiry on this subject (THE JOURNAL Feb 29, 1908 page 710) with a portion only of the list was through an oversight, published prematurely The following books the copy for which was overlooked should be added thereto

Allen C W The Practitioners Manual A Condensed System of General Medical Diagnosis and Treatment. W Wood & Co New York. Net, $6 00

Boston L. N A Text Book of Clinical Diagnosis Second edition Saunders, Philadelphia $4 00

Butler Diagnostics of Internal Medicine D Appleton & Co New York. Subscription price $2 00

Emerson C P Clinical Diagnosis. Lippincotts, Philadelphia Net $5 00

Greene C Lyman Medical Diagnosis Second edition recently published Blakiston Son & Co Philadelphia Net, $3 50 Contains a section on opsonic theory and technic

Hare H A Practical Diagnosis' Fifth Edition Lea Bros & Co Philadelphia. Net $5 00

Musser J H Medical Diagnosis Fifth Edition Lea Bros & Co Philadelphia Net, $6 50

Sahli Prof Dr H Edited by Kinnicutt F I and Potter N B Diagnostic Methods of Examination From fourth German edition Saunders & Co Philadelphia Net $6 50

Simon Charles E A Manual of Clinical Diagnosis by Microscopic and Chemical Methods Fifth edition Lea Bros & Co Philadelphia Net $4 00

Vierordt and Stuart Medical Diagnosis Fourth revised edition translated from fifth German edition Saunders & Co Philadelphia Net, $4 00

GERMAN ENGLISH DICTIONARY

KEWAUNEE WIS Feb 28 1908

To the Editor —I lease refer me to a good German English dictionary W M WOCHOS M D

ANSWER —For general use one of the most satisfactory German English and English German dictionaries is Adler s published by D Appleton and Company 436 Fifth Avenue New York at $1 50 for the abridged and $5 for the library edition A satisfactory German English dictionary for medical terms is that of Lang and Abrahams published by P Blakiston s Son & Company 112 Walnut Street Philadelphia at $4 An invaluable work for one who reads much foreign medical literature is the National Medical Dictionary of Dr John S Billings which contains the medical terms of five languages in a single alphabetical sequence This is published by Lea Brothers & Company 706 Sansom Street Philadelphia at $12. Further comments on translating appeared in THE JOURNAL Jan 5 1907 p 70 July 22 1905 p 273 and Dec 16 1905 p 1896

LITERATURE ON ACROMEGALY

HOT SPRINGS ARK Feb 29 1908

To the Editor —Please refer me to the latest work on acromegaly and the use of thyroid or pituitary extracts in that dis

Patient No 5—Naffar Hassan Mustaffa M L B, Sanitary Section, age 18 On admission, the ulcer was of the size of a sixpenny piece When it was clean and granulating, ten per cent protargol ointment was used The ulcer healed up in two weeks

Patient No 18—Ahmed Hamed M L B age 26 On admission he had two ulcers, both on his left foot, one on the inner side, the other on the outer They were practically of the same size and condition The inner one was treated with Hyd perchlor, and saline as above, and the outer with 40 per cent formalin till it was clean, when 10 per cent protargol ointment was used. The inner one completely healed up in 18 days, and the outer in 32 days

Another case was treated with hot boric compresses four times a day, and later on as an ordinary septic sore Though the ulcer was of the size of a shilling, it required 29 days for it to heal up, and a lot of cleaning and two scrapings

On touching ulcers of various sizes, especially of the size shewn in photograph No 2, with such a strong poison as Hyd perchlor, there were no untoward signs or symptoms There were no signs of irritation except in one case out of 15 treated in that way Most probably in this particular case washing with normal saline was not as thorough as it ought to have been, but there was not the slightest suspicion of poisoning The wonderful way in which the ulcer clears up on an average of two days, is strongly in favour of the treatment, whilst the after-treatment is simple and inexpensive For after-treatment amongst ointments 10 per cent protargol ointment gave promising results, but as shown in case 18, it required a longer time than the saline

The writer wishes to express his thanks to Colonel R S. Hannay, C M G, D S O, Assistant Director of Medical Services, Palestine, for perusing this article, and allowing it to be sent to press, and also to Major N Low, D S O, Deputy Assistant Director of Hygiene, Palestine, for encouragement received from him, and for valuable suggestions

The three photographs taken by the writer illustrate the conditions met with

Note—Recent work on Naga sore, where Mr E C R Fox has shewn that the causative organisms correspond to those of Ulcus tropicum supports Captain Sen's claim that the infection is usually a secondary one Thus Dr Hall Wright in Assam experimentally infected himself by allowing non-biting Siphonella flies fed on sores, to settle on an abrasion Mr Fox secured experimental infection of a patient by allowing a dressing soaked with the discharge to dry on an abrasion whilst recently, at the Calcutta School of Tropical Medicine Major Acton I M S has had a case which was primarily an inguinal soft sore, later became infected with a fungus, and finally presented a typical picture of Ulcus tropicum, with the characteristic fœtid odour and typical microscope finding of associated B fusiformis and Vincent's spirochætes—EDITOR, *Indian Medical Gazette*

NOTE ON THE RELATIVE RATE OF ABSORPTION OF SOLAR RADIANT HEAT OF SILT LADEN WATERS

BY A D STEWART,
MAJOR, I M S

THE utilisation of silt laden waters for the mitigation of malaria and the improvement of agriculture has long been carried out in Italy and the beneficial effects in both those directions widely recognised The close connection existing between the economics of agriculture and malaria in Bengal has been ably pointed out by Bentley It may be that many of the various factors operative in the production of beneficial results of flooding the country with silt laden water and providing for adequate drainage, are common and work beneficially in both connections It is possible that the optimum conditions for the production of wet crops, *e g* the level of the superficial water, its rate of flow, the chemical composition of the water and of its carried silt, and its temperature, *on investigation*, may turn out to be the conditions most inimical to the larval life of the anopheles One of the chief results of this land treatment is undoubtedly a reduction of the anophelines and an investigation of the factors productive of this result is certain to be of interest

It is well known that the anopheles prefers and requires a clear limpid water for the development of its larvæ Hodgson and King observed that anopheline larvæ died *in water the temperature of which* was over 35° C It was therefore suggested that silt laden water might absorb radiant heat at a greater rate than clear water and that the resultant higher temperature thus attained might be one of the conditions unfavourable to the anopheline larvæ in such water It was to determine the former point that the following observations were made

Equal quantities of water were exposed to the sun's rays in white porcelain dishes readings of the temperatures made every five minutes, and the results recorded on charts Observations were first made with distilled water and with clear tap water containing 40 parts per 100,000 of dissolved total solids Some of these readings are recorded in figs 1, 2, and 3, from these it will be seen that tap water absorbs radiant heat at practically the same rate as the distilled water and that the curves are very closely approximate The dissolved solids would therefore appear to have little or no effect in the absorption of radiant heat But the comparison between silt laden river water and distilled water is striking, the results are shown in figs 4, 5, and 6 It will be seen that the temperature curve of the silt laden water rises much more quickly than that of distilled water In fig 6, the curves cross, the river water starting at a lower temperature attaining and passing that of the distilled water Further it would appear that the rate of cooling of the silt laden water is equal to that of the clear water and not as might be thought greater It is therefore suggested that the quicker absorption of solar radiant heat by a silt laden water and the higher resultant temperature are possibly factors operative in nature in the reduction of anopheline mosquitoes in areas flooded by such water

McGovern J H Annapolis.
Miers Edward Des Plaines
Mitchell J M., Oblong
Morf P F., Chicago
Newlin Leroy Robinson
Overmass S E. Chicago
Palmer F A Morris
Poe J B., Oregon
Everson E. A Kenilworth
Schrader J F Bridgeport.
Scruggs J B O Fallon
Secker W V Evanston
Simpson B J Chicago
Trotter G S Dundas
Tweedy J R Oroville
Webster F M Chicago
Whitacre H N Carbondale
Wilkin W E. Oblong
Williams J S Jerseyville.
Woolston W J Chicago

INDIANA

Anglin G W Warsaw
Benham J W Columbus
Gillespie C F Crothersville
Groman H C Hammond
Harris C. E. Bloomington.
Kyle H R Seymour
W R Mattox Terre Haute
Shaley F W Terre Haute
Stroube C N Roachdale

IOWA

Bigelow C T Oxford
Cottle C C Marshalltown
Murphy H W Denver
Teufel J C Buffalo
Thompson O I Sumner

KANSAS

Barney L F Kansas City
Jones Z G Tonganoxie
Menninger C F Topeka
Romeo Pasquale Scammon
Thompson W O Dodge City

KENTUCKY

Ashbrook W A La Center
Blythe Vernon Paducah
Carrick J C Lexington
Ehrich W S Louisville
Fultz C H Vanceburg
Gibson W H Lerose
Lowry S M Clifton
Slocum H J Eagle Station
Smith J T Garmaliel
Sphire D S Mcalyville
Stubblefield J P Corydon.
Wallace Lew Beard
Wilcox G S Willard.
Willis P T Cromwell

LOUISIANA

Hanson J D Donaldsonville

MAINE

Haley J Robert Kennebunk
Ober F P Northeast Harbor

MARYLAND

Downey J W Jr Baltimore
Hayes R B Baltimore

MASSACHUSETTS

Chandler C L. Fitchburg
Fuller L. P Lawrence
Greenwood S F Templeton
Hanscom Sanford Somerville
Hartman Gustave Lynn
Hussey E. J Holyoke
Lawlor R H Methuen
Littlefield C C Webster
McCullicuddy J T Worcester
Seaver L. L., Jr., Nantucket.

MICHIGAN

Ionine J Gordon Cassopolis
Keught C I Erie
Kellick I J Greenville
Gordon C C Detroit
Lake [illegible] Detroit
Little F W Pelding
Monroe D J., Ilkton
Patterson A E. Plymouth
Zumstein F F Detroit

MINNESOTA

Fegarty C W Browns Valley

MISSISSIPPI

Dame S P W t Point

MISSOURI

Dressel T H Milford
Hillis I B. Kahoka
Hughes H S St Louis
Neuhoff I S Louis
Saxl Ernst St Louis
Van Hoesen S. St Louis

NEBRASKA

McGirr J L. Fairfield

NEVADA

St Clair Raymond Reno

NEW HAMPSHIRE

Bean M E., Manchester

NEW JERSEY

Borsen T H Egg Harbor City
Kent M M Trenton
Stern Arthur Elizabeth

NEW MEXICO

Hammer W J Silver City

NEW YORK

Alger E M New York City
Appley J D Binghampton
Brown H., Beattie Yonkers.
Conley J A Penn Yan
Cunningham W P, New York City
Drake B F New Rochelle
Easton F E Syracuse
Floersheim Samuel New York City
Ford W E. Utica
Garrigue Evelyn New York City
Glick S A Brooklyn
Graham H F Brooklyn
Gray B H New York City
Halsey R H New York City
Heyman M B Central Islip
Hunt C F New York City
Hyams Benno New York City
Janeway T C New York City
Johnson G V Schenectady
Johnson G Q Ardsley
Lawrence G A New York City
Léon A M New York City
Lynaght Ellen Brooklyn
Maxson S C Utica
McClellan F S Saranac Lake
Moe R W Peekskill
Pau I S New York City
Robinson Daisy M O New York City
Rossi F G Utica
Santer R A Schenectady
Smith F T Troy
Wade H A Brooklyn
Whiteside M J Rochester
Wyeth G A New York City

NORTH CAROLINA.

Hiatt H B Clinton
Love B F Ridgeville
Patterson J F New Bern

NORTH DAKOTA

Chambers C L. Bismarck.
Myklestad Nils Williston

OHIO

Beane B F New Paris
Connell G H Jersey
Breese E. S Dayton
Broughman S A Dayton
Cadwallader Mary F Dayton
Cox M F Dayton
Frazier S S Kunkle
Good Harman Dayton
Heistand H L. Donaldsville
Hendren S F Dayton
Holliday B W Cleveland
Hornung, F G Hamilton
Hyer A A Moons
Iddings C S Cleveland
Jacoby C W Morrall
Lane A H Dayton
Lichliter D C Dayton
Marsh H H Seven Mile
McCuffin George Pettisville
McLaughlin Thad Springfield
Montgomery J S., Huntsville
Moses Katherine R. Cuyahoga Falls
Musshammer J C., Dayton
Odell Samuel Swanton
Prather W F Dayton
Sander F J C Steubenville
Sater P M Hamilton
Sellers C P Zanesville
Seward I F Springfield
Sharker T D Hamilton
Smith R. R East Liberty
Steinfeld A I Toledo
Straver W A Steubenville
Turnbull Rosa C F Liverpool.
Youngblut A A., Cincinnati

OKLAHOMA

Anderson R M Shawnee
Leichler I J Lambert.

PENNSYLVANIA

Behan R J Pittsburg
Bethel J P Philadelphia
Boulton Eleanore F., Philadelphia
Cheesman La Fox H Pittsburg
Hall Fret Harte Linwood
Hilbers J W., Wes Middlesex.
Hunter R J Philadelphia.
Kilgore F D Harrisburg
Krebs Adolph Pittsburg
Lyon Edward Williamsport.
Lynn R B Sayre
McCausland W S Duquesne
McCormick E L. Irwin.
Mead R K Sagamore
Newton E A Philadelphia.
Skilling M J Philadelphia
Stauffer C. C Harrisburg
Tomlin A N Philadelphia
Walters, B F, Jr Philadelphia

RHODE ISLAND

Magill W H Providence
Nestor M J Providence

SOUTH CAROLINA

Turner W P Jr Coronaca

SOUTH DAKOTA

Burleigh G H Lane
Potter G W Redfield
Staley F H Clear Lake

TENNESSEE

Abernathy B F Danville
Abernathy C A Pulaski
Purger T O McMinnville
Finley R. H Jellico
Griffin R W Tiptonville.
McClain H T Mooresburg
Sorr B B Cedar Hill
White G R Nashville

TEXAS

Hudgins D H Forner
Mayo S L Cedar Creek
Perry M O Allen
Shankle W M Chilton
Tappan J W El Paso

UTAH

Kirtley H P, Salt Lake City

VIRGINIA

Atkins W V Blackstone
Brooks Vernon Portsmouth
Bunting C H Charlottesville

WASHINGTON

Griswold W S Seattle
Hunt John Seattle
McClure C E Seattle
Thomas Bert Walla Walla

WEST VIRGINIA

Baker J A Shirley
Derby A P Fayetteville

WISCONSIN

Andrews M P Abbotsford
Cleary J H Kenosha
Hipke G A Milwaukee
Mason V A Marshfield
Robinson H A Kenosha
Ruckle W M Grand Rapids
Spalding J B Kenosha
Thompson G E Kenosha
Van Westrienen Rolt Kenosha

Marriages

JOSEPH PARLEY, M D to Miss Lilian E Lumley, both of Philadelphia, February 26

GEORGE S DILMORE, M D Philadelphia, to Miss Sarah Hall Mines of Camden, N J February 26

JOHN CHARLES BRIDGMAN, M D, Radcliffe, Iowa, to Miss Gertrude Tennant of Burnside, Iowa, February 12

S M KAUFMAN, M D, Detroit, Mich, to Miss Clara Enushensky of Galt, Ont., January 14

ALBERT FALLER M D, Cincinnati, Ohio, to Miss Hortense Gimbel of St Louis, Mo February 24

JOHN A LONGMORE, M D Brooklyn N Y, to Miss Lillian Llewellyn Dagleish of Ottawa, Ont, February 26

ROBERT M CULLER M.D assistant surgeon U S Army, Fort Monroe, Va, to Miss Anne E Loser, at Philadelphia, February 12

Deaths

Daniel Bennett St John Roosa, M D New York University Medical College, New York City, 1860, a member of the medical societies of the State and County of New York, interne in the New York Hospital for three months assistant surgeon of the Fifth New York Volunteer Infantry during the Civil War, later surgeon of the Twelfth New York Volunteer Infantry professor of ophthalmology and otology in the University of the City of New York since 1866, and for a time occupant of the same chair in the University of Vermont, Burlington, president and professor of ophthalmology in the New York Postgraduate Medical School and Hospital, for two years president of the American Otological Society, once president of the International Otological Society, member of the American Ophthalmological Society, and corresponding member of the Medico Chirurgical Society of Edinburgh, died suddenly at his home in New York City, March 8, from heart disease, aged 69

Dudley D Saunders, M D University of Pennsylvania, Department of Medicine, Philadelphia 1856 New York University Medical College New York City 1856 a member of the American Medical Association, professor of physical diagnosis and clinical and forensic medicine in the Memphis Hospital Medical College, a surgeon in the Confederate service during the Civil War a veteran of four yellow fever epidemics in Memphis died at his home in that city, February 24, from pneumonia after a short illness, aged 72

Ebenezer Nye Hutchinson, M D University of Pennsylvania Department of Medicine Philadelphia, 1848 a director of Union Theological Seminary for many years and secretary of the Board of Trustees of the General Assembly of the Presbyterian Church of the South who had not practiced for several years died at his home in Charlotte N C January 30, from senile debility, after an illness of one week, aged 80

Mixed Treatments —

1 Treatment B twice cured by C once
2 Treatment B twice, C ,, cured by D once
3 Treatment C once cured by E once
4 Treatment A once, C ,, cured by E once
5 Treatment A once, C twice cured by D once
6 Treatment C once cured by E once

The asylum cases were treated by one of Dr Ernest Muir's assistants attached to the School of Tropical Medicine They were treated by method (*b*) and a month later 41 out of 51 were found negative

A recent unauthenticated paragraph in the daily press on the use of Carbon tetrachloride has created sufficient interest to render the publication of this note advisable Though the tests are by no means complete, it is clear that in this drug we have a valuable addition to our stock of vermicides

Since the above went to press I have had the advantage of a conversation with Dr Victor Heiser, Director for the East of the International Health Board (Rockefeller Foundation) He informs me that Carbon tetrachloride is on trial by Rockefeller investigators in South America and that several cases of what was apparently acute yellow atrophy of the liver have followed its use Of the conditions prevailing and the dosage used he was not at the time of speaking aware Until this matter is cleared up it would obviously be unwise to employ Carbon tetrachloride as a routine standard treatment

REMARKS ON THE TYPHUS FEVER OF KUMAON, AND ON THE SUGGESTION THAT IT IS TRANSMITTED BY A TICK

By F W CRAGG, MD,
MAJOR IMS
Officer in Charge Entomological Section, Central Research Institute, Kasauli

BHIM TAL and Sat Tal small hill stations in the lower Kumaon hills, have for long had an unfortunate reputation on account of the frequent occurrence among visitors there of a serious and often fatal disease This was recognised by McKechnie as typhus fever Colonel Megaw,* in an interesting discussion of these cases has put forward the suggestion that the disease is the same as, or closely allied to, the Spotted Fever of the Rocky Mountains, and that it is transmitted by a tick He has made out a *primâ facie* case against the tick The purpose of this note is not so much to assail his argument as to set out the *primâ facie* case against the louse, and to suggest that the Bhim Tal fever is none other than the ordinary louse-borne typhus

There is a strong probability that typhus fever is endemic in the Kumaon hills It was reported there on many occasions in the last half of the last century, and, in one instance at least, was observed by a Sanitary Officer who was familiar with the typhus of Europe, and who apparently had no doubt about the diagnosis of these hill cases The older reports of the Sanitary Commissioner of the United Provinces contain many references to the disease, and give the vernacular names, "Jhar," and "Sanjhar," as stated by McKechnie It has not been proved, of course, that this typhus is louse-borne, but there is no reason to suppose the contrary The fact that outbreaks have not been recognised in recent years is of little significance, for the population of this mountainous region is so widely scattered, and communications are so difficult, that small epidemics would be unlikely to come to notice. It is possible, therefore, even probable, that the cases which came specially to notice at Bhim Tal and Sat Tal were of the same nature as those seen in other parts of the hills a generation ago

A little local knowledge of the Kumaon hills has led me to think that the conditions at Bhim Tal are especially favourable to outbreaks of typhus, and further, that even persons who would ordinarily run little risk of suffering from louse-borne disease are exposed to unusual chances of infection there.

The position of Bhim Tal is important It is the last halting place on the road running through the hills from Almora to Kathgodam, the railhead, the whole journey being a three or four days march The gradients on this road are much too steep for wheeled traffic, but the distance is much shorter than by the motor road along which Colonel Megaw travelled, and it is by this route that the inhabitants of the hills and travellers from distant parts ordinarily reach the plains At certain seasons of the year there is a very considerable traffic along this road A large proportion of the inhabitants of these hills move down to the plains in October or November, and return in the Spring Each family or small community moves as a unit, taking with it its livestock and domestic gear, the very young and the very old are carried on the cattle and ponies, and the hill farms are left deserted through the Winter They march by stages, camping at night at regular halting places, of which Bhim Tal is the last before entering the plains In addition to this annual to and fro movement of the local population there is a good deal of traffic from outside British India From Almora there are roads leading into Nepal and Bhutan, and through the passes of the Himalayas into Central Asia Flocks of sheep are driven through the passes each year laden with borax, and return laden with salt Large numbers of men come down from distant parts in the Spring to work on the roads as coolies during the summer months Bhim Tal, in fact, is at the narrow end of a wide funnel, and it is clear that if typhus fever is endemic in the hills, or is frequently introduced from across the border, this station will have a very special liability to outbreaks of the disease Naini Tal

* *Indian Medical Gazette* October, 1921 page 361

Thornbury Bailey Bartlett, M.D Eclectic Medical Institute, Cincinnati, 1879, died at his home in Mount Clare, W Va, February 25 from paralysis, after an illness of more than a year, aged 72

Lucy H A. Brown, M.D Cleveland (Ohio) Homeopathic Medical College, 1882, died at her home in Providence, R I, February 14, from kidney disease, after a protracted illness, aged 66

H Jermingham Boone, M.D University of Maryland School of Medicine, Baltimore, 1844, for many years a practitioner of Buckeystown, Md, died at Weverton, Md, February 22, aged 87

Adolph P Bernhardt, M.D National Medical University, Chicago, 1901, a member of the Illinois State and Chicago medical societies, died at his home in Chicago, February 21, aged 41

Richard J Gibbons, M D Homeopathic Medical College of St Louis, 1875, of Kansas City, Mo, died suddenly from heart disease, on a street car in Kansas City, Dec 13, 1907, aged 65

James S McMurray, M.D Medical College of Indiana, Indianapolis, 1870, died at his home in Frankfort, Ind, February 25, from acute nephritis, following an attack of erysipelas

William Darlington King, M.D Hahnemann Medical College and Hospital, Philadelphia, 1884, died at his home in Belle field, Pittsburg, Pa, from pneumonia, February 18, aged 47

John McMaster, M.D C M. Trinity Medical College, Toronto, 1904, *x* ray specialist in the Toronto General Hospital, died in that institution February 20, from septicemia, aged 49

Joseph Greer, M.D Tulane University of Louisiana Medical Department, New Orleans, 1869, a Confederate veteran, died at his home in Alvin, Texas, February 19, aged 64

Stanislaus P O'Brien, M D Medical School of Harvard University Boston 1907, died at his home in Centralville, Mass, February 27, after an illness of two weeks, aged 26

Fred J Bradd, M.D Medical Department, Victoria College, Toronto, Ont., 1888, died in his home at Petersboro, Ont, Dec. 23, 1907, after an illness of about a week.

James J Rowe, M D Eclectic Medical Institute, Cincinnati, 1858, died at his home in Abingdon Ill, February 29, from paralysis, after an illness of five years aged 76

George F Milne, M.D Toronto University, Medical Faculty, 1905, of Fort Lupton, Colo died recently in St Luke's Hospital, Denver, after a short illness, aged 27

James A. Williamson (License W Va, 1881), a member of the state legislature in 1864 1865 died at his home in Parkersburg W Va, February 29, aged 90

Arthur C Green, M.D State University of Iowa, College of Homeopathic Medicine, Iowa City, 1880 died at his home in Los Angeles, Cal Nov 21, 1907, aged 57

David D Stevens, M.D Eclectic Medical College of the City of New York 1878 died suddenly from heart disease at his home in New York City Nov 10, 1907

William A. Zellars, M.D Medical College of Georgia, Medical Department, University of Georgia Augusta, 1878, of Palmetto Ga, died Nov 8 1907 aged 70

James Surman, M.D California Medical College, San Francisco 1882 died suddenly in his room at Portland, Ore, from aortic aneurism, February 24, aged 66

Ben B Scott, M D University of Louisville (Ky) Medical Department 1868, a retired practitioner of Campbellsville, Ky, died at his home January 16

William Stuart Ross, M.D Eclectic Medical Institute Cincinnati 1858 died at his home in Madisonville, Ky, February 26 from heart disease aged 78

William H Semple, M.D Medico Chirurgical College of Philadelphia 1897 died at his home in Philadelphia, February 27, from tuberculosis aged 43

Harvey C Morey, M D Rush Medical College Chicago, 1854, a retired practitioner of Gilroy, Cal died recently at his home in that place aged 81

A Parker Smith, M.D College of Physicians and Surgeons in the City of New York 1878, died at his home in New York City January 20

Orin D Childs, M.D Cleveland University of Medicine and Surgery 1867 died at his home in Akron, Ohio, March 2 aged 67

William Bettridge, M.D Trinity Medical College, Toronto Ont. 1865 died at his home in Strathroy, Ont, Oct 15, 1907, aged 70

Louis J Adams, M D Jefferson Medical College, Philadelphia, 1857, died at his home in Evansville, Pa, Dec 8, 1907, aged 53

James S Alford, M.D Rush Medical College Chicago 1878, died at his home in Zionsville, Ind, February 26, aged 60

John S Peaslee, M.D Albany (N Y) Medical College, 1874, of Schodack Landing, N Y, died February 7

Deaths Abroad

C F Petersen, M.D, professor of surgery at Kiel, died February 18 aged 63 He was assistant to Esmarch during the Franco Prussian War and at Kiel, and in 1874 founded the surgical polyclinic which was later incorporated with the university His works are mostly on surgical subjects

J Friedrich A. von Esmarch, M D., the eminent German surgeon, and inaugurator of the "First Aid" or *Samaritaner* movement in Germany, died at Kiel, February 23, aged 85 He has written numerous works on military surgery and hygiene His first communication on the subject of the now familiar "Esmarch bandage" for controlling hemorrhage was published in 1873 He served in the various campaigns in which Germany took part, and was physician general during the Franco Prussian War As a privat docent and professor he was connected with the Kiel university from 1849 to his retirement in 1899 He has been heaped with honors at home and abroad His second wife was Princess Henriette of Schleswig Holstein, aunt of the emperor A statue was unveiled with much ceremony in 1905 in his native town, Tönning He leaves a son, Erwin, who has been professor of hygiene at Königsberg and later at Göttingen, since 1891, and is now 53 years old.

Medical Economics

Medical Organization in Australia

The *Australasian Medical Gazette* for Dec 20, 1907, contains an address by Prof H B Allen, the retiring president of the Victorian Branch of the British Medical Association, showing the condition of medical organization in the antipodes After reviewing the history of the Medical Society of Victoria and its final union with the Victorian Branch of the British Medical Association, and emphasizing the advantages gained by such a union, Dr Allen outlines the work of the society for the future He says

The necessity for full organization of the medical profession needs no demonstration The average income of the medical man in Great Britain is now estimated at between £220 to £250 ($1,100 $1,250) In Ireland matters have become so bad that a viceregal commission has been appointed, and a suggestion to establish a national medical service, and thus secure an approach to adequate remuneration, with a retiring allowance, has been approved by the State Medicine Section of the Royal Academy of Medicine, and by the Irish Medical Association and by the Council of the British Medical Association In Austria the income tax returns [which from all reports are not reliable data—Ed] show that one third of the 9,000 registered practitioners receive less than £50 per annum, that 555 earn from £300 to £500 per year, and that only 300 earn more than £500 per year The main causes of such disastrous conditions seem to be abuse of public hospitals, abuse of the medical benefit system of societies and other associations, the growth of medical associations, by which medical men in distress allow themselves to be farmed out by others the activity of the prescribing chemist, the prodigious sale of proprietary medicines, and the general prevalence of quackery In London it is said that in 1877 one in four of the population received free medical service, while in 1904 the proportion was approximately one in two In England and Wales the proportion of the population dying in public institutions has nearly doubled within forty years while in London it has more than doubled and has reached nearly 35 per cent of the population In Germany more than one third of the population belongs to sick clubs The position of the profession is not so bad in Australia but conditions that make for evil are undoubtedly present

Evidently the physicians of Australia are facing many of the problems which confront us here We have the advantage of the experience of the medical profession in Germany, Austria and Great Britain, where the fraternal society and medical club has been among the leading factors in the degradation

evening Mist Saline 1 oz in the morning Blood to be counted on 21st November, 1921 4 p m Serum M XX injected intravenously (Auto-Serum)

20th November, 1921—Patient passed no urine from 2 p m of the 19th November, 1921, slight spasmodic stricture. Tongue yellowish coated and dry—Scalp also yellowish Stools watery with fæcal matter No worms or ova found. Stools are also dark in colour Leucocytes 26,250 Reflexes—Knee-jerk diminished, ankle clonus present

Evening—Jaundice in eyes increasing—vomited some dark-coloured matter Pulse 108 Hiccough at intervals Emetine gr ½ injected hypodermically Blood cells found in vomited matter

21st November, 1921—Eyes jaundiced more, also congested Tongue yellowish and furred Low muttering delirium all night Pulse 108 T N Passed about 1 oz of blood per rectum Emetine ½ gr injected Hiccough still present Blister applied over 7th cervical vertebra No subcutaneous hæmorrhage,—Delirious Demulcent drinks to be given Good sponging B D Urine Stellate and triple phospate, also ammonia phosphate crystals Some renal epithelium Blood cells, bladder cells Noticed that the urine on standing becomes green.

22nd November 1921—Has had a bad night Four hæmorrhagic stools also spat up some blood Is semi-conscious Jaundice stationary Pulse 112 T N Slight but persistent hiccough No more vomiting or epistaxis Ordered 2 pts warm Saline solution also 1-8 gr Morphia and ½ m adrenaline chloride solution 12 noon Laboured respiration Pulse failing 4-20 p m died

P M NOTES

On opening the abdomen and thorax, all viscera were found to be of a yellow colouration

Pericardial Sac—2 oz serosanguinious fluid

Heart—10 oz Very soft stained yellow—Rt ventricle dilated and flabby

Left Lung—15 oz Firmly adherent to chest wall, lower lobe congested upper lobe yellow in colour

Right Lung—23 oz lower lobe congested upper lobe yellow No adhesions

Liver—60 oz soft a few superficial vessels under the capsule yellow Not dry on section

Gall bladder had about 4 oz of brownish bile

Kidneys Right and Left—8 oz each large soft, flabby slightly congested The right had a hæmorrhagic infarct.

Spleen—12 oz soft, and discoloured yellow

Stomach—Congestion of anterior wall, about the lesser curvature Some venous engorgement also noticed along the lesser curvature.

Small Intestines—Nothing special except that there was some slight degree of congestion

Large Intestines—Slaty grey in colour or else normal

No 40,226 *Paharpaon* Cane file work in jungle
Admitted 29th October 1921
Previous admissions—Malaria 3 Wound 1
On admission patient gave a history of fever for two days

Weakness all over the body but especially in the legs Eyes slightly congested. Both liver and spleen slightly enlarged Blood negative to malaria Rod like bacilli found Albumen in urine—Sp gr—1010

Blood Count—Polymorphs	82 7	per cent
Eosinophiles	6 4	per cent
Mononuclears	11 8	per cent.
Lymphos	4 7	per cent

30th October 1921—Pulse morning and evening 96—108 Respiration 24-30 No albumen in urine

1st November 1921—E. T 97 4 Pulse 108 Complains of pain in the legs (thighs) Yesterday there was blood in the stools but to day the amount is considerably reduced but pieces of epithelium almost like casts are found in the stools Tongue coated but moist.

Leucocytes 8,125—Intramuscular injection of quinine Bihyd gr XV

2nd November, 1921—Pain in calves to-day—very restless—pulse 108 Had two stools which contain sloughs—jaundice is also apparent Tongue moist, and cleaner than yesterday Urine—a trace of bile, reaction acid Hæmoglobin Index 70 per cent

3rd November 1921—Pulse 112, good in volume Urine 2½ lbs in 24 hours Patient states that he is a bit better to-day Is rather somnolent Stools normal Has developed a troublesome hiccough since last evening To be given an emetine injection this evening and Mist. Chlorine 1 oz T D S

4th November, 1921—Pulse 96, was very bad with hiccough from 3 to 6 a m Expectoration this morning was bile stained Is very drowsy Emetine and Chlorine mixture to be continued

Evening—Very persistent and distressing hiccough E T 100 6 Pulse 108 Has been passing large quantities of urine all day

5th November 1921—Was given an injection of Morphia last night to stop the hiccough Slept in snatches At 1 a m the temperature rose to 101° Passed scybalous masses after an enema this morning From 7 a m hiccough started again Pulse 96 not of very good volume Sinapism to stomach Morphia and Emetine injection given

Urine—1010—Acid Increase of bile Chlorine Mixture stopped 10 a m vomiting small gushes of fluid bile-like vomit.

Evening—T 101 Pulse 104, no hiccough from 3 p m

6th November 1921—Pulse 88 Temperature 98.2 Hiccough stopped Abdomen bloated Condition fair Evening T 98 4 Pulse 86

7th November, 1921—T 98 Pulse 138, full and bounding Passed a very offensive motion Urine changed to a lighter colour, turbidity much reduced Patient slept well no hiccough since 4 p m yesterday Complained of great thirst, and has been drinking a lot of water Congestion of eyes gone, only jaundice remains No pain in the thighs

8th November 1921—Was given calomel last evening, and a saline purge this morning Passed two loose yellowish motions There is an all-round remarkable improvement in the patient in every way Jaundice clearing up expression brighter, and he sleeps well 3-15 p m pulse taken during sleep, 80 per minute

From now onwards the recovery was uninterrupted

No 40,798 Admitted from *Haddo, working in gardens*
Previous other admissions—Malaria 1 Diarrhœa 1
Date of present admission—1st November, 1921
History—Fever for past two days with general malaise No enlargement or tenderness of liver or spleen Mononuclears 6 per cent Bowels said to be moved daily but not free.

2nd November 1921—Blood count Polymorphs 61 8 per cent Eosinophiles 8 per cent. Mononuclears 6 1 per cent

3rd November 1921—Complains of pain all over the body and thirst Tongue coated but moist.

4th November 1921—Severe pains in the legs especially the thighs

5th November 1921—Slight congestion of eyes pain in thighs a bit less Complains of pain in the chest Nothing adventitious in the heart or lungs To be given serum injection (Serum from the patient's own blood)

6th November 1921—Urine 1012 Acid No albumen sugar, bile, pus, blood, V m serum injected, no reaction

7th November, 1921—Patient considerably reduced Complains of weakness and pain in the legs

8th November 1921—Serum XX m, injected Eyes congested Patient prostrated

9th November, 1921 *Blood count*—Polymorphs 69 8 per cent. Eosinophiles 13 7 per cent Mononuclears

Medical Education and State Boards of Registration

COMING EXAMINATIONS

MAINE Board of Registration of Medicine State House Augusta March 17 18 (Note change of place from Portland) Secretary Dr William J Maybury Saco.

RHODE ISLAND State Board of Health Room 313 State House Providence April 2? Secretary Dr Gardner T Swarts Providence

GEORGIA Eclectic Board of Medical Examiners Atlanta April 4 Secretary Dr Charles H Field 235 Capitol Ave Atlanta

ARIZONA Board of Medical Examiners Phoenix April 6 7 Secretary Dr Ancil Martin Phoenix

UTAH State Board of Medical Examiners Salt Lake City April 6 7 Secretary Dr R W Fisher Salt Lake City

COLORADO State Board of Medical Examiners Denver April 7 Secretary Dr S D VanMeter 1723 Tremont Place Denver

MINNESOTA State Board of Medical Examiners St Paul April 7 Secretary Dr W S Fullerton 214 American National Bank Building St Paul

CALIFORNIA State Board of Medical Examiners San Francisco April 7 Secretary Dr Charles L Tisdale 1879 Sutter St San Francisco

IDAHO State Board of Medical Examiners Cœur d'Alene Secretary Dr W F Howard Pocatello

MONTANA State Board of Medical Examiners the Capitol Helena April 7 Secretary Dr W C Riddell Helena

NORTH DAKOTA State Board of Medical Examiners Grand Forks April 7 9 Secretary Dr H M Wheeler Grand Forks

FLORIDA Regular Board of Medical Examiners Ocala April 13 14 Secretary Dr J D Fernandez Jacksonville

NEW MEXICO Board of Health and Medical Examiners Santa Fe April 13 14 Secretary Dr J A Massie Santa Fe

ARKANSAS Homeopathic Board of Medical Examiners Little Rock April 14 Secretary Dr V H Hallman Hot Springs

ARKANSAS Eclectic Board of Medical Examiners Little Rock April 14 Secretary Dr A J Widener Little Rock

WEST VIRGINIA State Board of Health Parkersburg April 14 16 Secretary Dr H A Barbee Point Pleasant

ILLINOIS State Board of Health Northwestern University Building Chicago April 15 17 Secretary Dr J A Egan Springfield

Appointments to Pennsylvania Examining Boards.

On February 11 Governor Stuart announced the following appointments on the several boards of state medical examiners

Medical Society of Pennsylvania—Winters D Hamaker, Crawford M P Dickeson Delaware

State Homeopathic Medical Society—Joseph C Guernsey, Philadelphia William A Stewart, Allegheny

State Eclectic Medical Society—William Rauch Cambria C M Ewing Dauphin, the latter to succeed J M Lowther, Somerset, whose term has expired

Chicago College Not in Good Standing

In THE JOURNAL of February 15 page 551 we included in a list of colleges which we stated had been declared not in good standing the Reliance Medical College a night school of Chicago A protest being received from the president of that college we wrote to the secretary of the State Board of Health of Illinois for further information In his reply he says

"While the college is not in good standing with the board it has not been declared not in good standing—in fact no action has yet been taken on the college."

Plan for a Merger of Medical Schools in Georgia

In the general movement for the establishment of stronger colleges which are better equipped to teach modern medicine and which will insist on a better preliminary requirement the South is clearly doing its part The University of Texas and Tulane University have made great strides the Medical College of Alabama has become more closely united with the University of Alabama and now word comes that a merger of the three schools of Georgia into one strong medical college to be the medical department of the University of Georgia is contemplated This merger should be materialized and the school thus formed should have the backing moral and financial not only of the state but also of the medical profession

Oregon January Report

Dr Lyman L Miller secretary of the Board of Medical Examiners of the State of Oregon reports the written examination held at Portland Jan 7 8 1908 The number of subjects examined in was 8 total number of questions asked 100 percentage required to pass, 75 The total number of candidates examined was 53, of whom 20 passed and 33 failed The following colleges were represented

PASSED College			Year Grad	Per Cent
California Med Coll			(1906)	77 4
Northwestern Univ Med School			(1906)	86 1
Rush Med Coll	(1901)	80 7	(1902)	78 8
College of P and S Chicago			(1907)	85 3
Sioux City Coll of Med			(1898)	78 –
Drake University			(1904)	86 7
University of Michigan			(1906)	79 1
University of Minnesota			(1904)	75
Creighton Med Coll			(1906)	81 7
Cornell University			(1905)	82 1
University of Oregon			(1907)	77 4 77 8
Hahnemann Med Coll Philadelphia	(1877)	76 6	(1900)	79
Jefferson Med Coll			(1907)	79 1
University of Virginia			(1907)	77 2
McGill University Montreal			(1900)	75 1
University of Toronto Ontario			(1907)	78 2
University of Munich Germany			(1903)	75 1

FAILED				
Northwestern Univ Med. School			(1907)	69 2
Bennett Coll of Ecl Med and Surg			(1906)	69 4
Keokuk Med Coll Coll of P and S			(1907)	64 5
Kansas Med Coll	(1895)	57 8	(1905)	71 6
University of Louisville	(1895)	65 9	(1907)	59 9
College of P and S Baltimore			(1901)	67 5
Maryland Med Coll			(1904)	59 2
University Med Coll New York City			(1887)	45 3
Hamline University			(1904)	54 6
University of Missouri			(1893)	60 4
Barnes Med Coll	(1903)	68	(1906)	35 1
Unsworth Central Med Coll			(1900)	56 4
Eclectic Med Inst Cincinnati			(1887)	50 9
Willamette University (1907) 52 8 60 1 60 7 65 65 2 65 4 67 8 69 7 70 4 71 4 73 8				
University of Oregon	(1905)	53 7 57 9	(1907)	70 8
Jefferson Med Coll			(1905)	59 9
University of Nashville			(1895)	33 1
Laval University Quebec			(1904)	67 7

Colorado January Report.

Dr S D VanMeter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, Jan 7, 1908 The number of subjects examined in was 8, total number of questions asked, 80, percentage required to pass, 70 Forty eight applicants were licensed at this examination, eleven of whom passed the examination, and thirty seven were registered on presentation of satisfactory credentials It is also reported that three candidates failed at the October (1907) examination The following colleges were represented

PASSED College			Year Grad	Per Cent
Northwestern Univ Med School	(1906)	78 1	(1907)	71 5
Denver and Gross Coll of Med	(1906)	82	(1907)	71 1 75
Indiana Med Coll			(1906)	76
Louisville Med Coll			(1905)	79 5
Barnes University			(1900)	75 5
Lincoln Med. Coll			(1897)	71 3
Omaha Med Coll			(1902)	70 1
University of Munich Germany			(1903)	72 5

REGISTERED ON CREDENTIALS College			Year Grad	Total Number
Rush Med Coll	(1882)	(1903)	(1905)	3
Northwestern Univ Woman's Med School			(1890)	1
Hahnemann Med Coll Chicago			(1881)	1
College of P and S Chicago	(1895)	(1903)	(1904)	3
Northwestern Univ Med School	(1875)	(1894)	(1897)	3
Dunham Med Coll			(1900)	1
University of Louisville		(1879)	(1907)	2
Louisville Med Coll			(1906)	1
Tulane University of Louisville		(1903)	(1904)	2
University of Michigan			(1906)	1
University Med Coll Kansas City			(1901)	1
Barnes Med Coll			(1899)	1
Kansas City Hahnemann Med. Coll			(1905)	1
Beaumont Hosp Med Coll			(1899)	1
Omaha Med Coll			(1892)	1
Bellevue Hosp Med Coll			(1877)	1
New York Med Coll and Hosp for Women			(1895)	1
University of Buffalo			(1891)	1
University and Bellevue Hosp Med Coll			(1904)	1
University Med Coll New York City			(1888)	1
Med Coll of Ohio			(1906)	1
Willamette University			(1902)	1
Woman's Med Coll of Pennsylvania			(1895)	1
Hahnemann Med Coll Philadelphia			(1897)	1
Jefferson Med Coll	(1895)	(1897)	(1907)	3
University of Pennsylvania			(1901)	1
Vanderbilt University			(1905)	1

FAILED AT OCTOBER 1907 EXAMINATION		
Sioux City Coll of Med	(1902)	75 1
Creighton Med Coll	(1907)	61 3
Lincoln Med Coll	(1898)	46

South Dakota July, 1907, and January, 1908, Reports

Dr H E McNutt secretary of the South Dakota Board of Medical Examiners, reports the written examinations held at

TOXIC JAUNDICE OF UNKNOWN ORIGIN IN THE ANDAMANS

By A BAYLEY DE CASTRO

Junior Medical Officer, Haddo, Port Blair

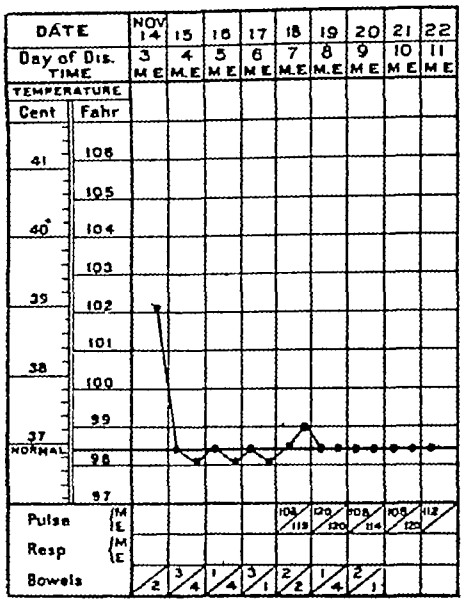


CHART I

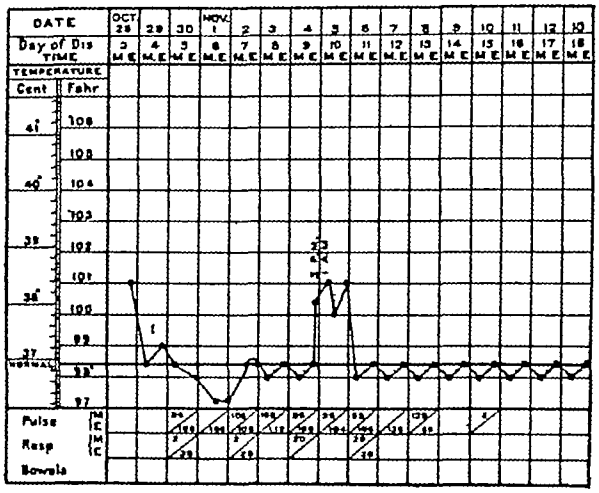


CHART II

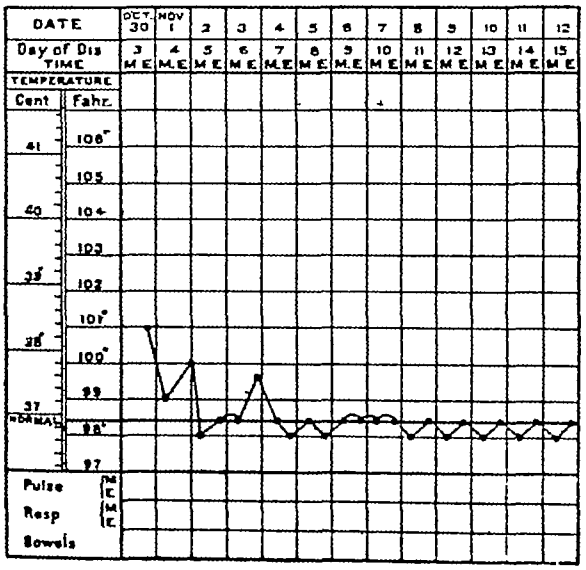


CHART III

Society Proceedings

COMING MEETINGS

Association of American Medical Colleges, Cleveland, March 16-17
Medical Society of the Missouri Valley, Lincoln, Neb., March 19-20
Medical Association of District of Columbia, Washington, April 2

TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA.

Tenth Annual Meeting, held at Charlotte, N. C., Feb. 18-19, 1908

The President, DR. STUART MCGUIRE, Richmond, Va., in the Chair

The meeting was attended by more than 200 physicians, including a number of invited guests from Baltimore, New York and Cincinnati. Sixty-four applications for membership were received.

Officers Elected.

The following officers were elected for the ensuing year: President, Dr. Albert Anderson, Raleigh, N. C.; vice-presidents, Dr. R. C. Bryan, Richmond, Va., Dr. J. L. Stokes, Salisbury, N. C., Dr. W. P. Timmerman, Batesburg, S. C.; secretary-treasurer, Dr. J. Howell Way, Waynesville, N. C.; judicial council, Drs. E. G. Williams, Richmond, A. L. Crowell, Charlotte, A. E. Baker, Charleston.

Charleston, S. C., was selected as the next place of meeting.

President's Address.

DR. STUART MCGUIRE reviewed the origin and growth of the association, which now has over 230 members. He referred to the value of membership in this and similar organizations and pointed out that for this reason the claim made by some that there are too many medical societies can not be defended successfully. In addition to the educational and professional advantages accruing from membership, there are the equally important social and personal benefits to be derived by attending meetings. It brings together men who live in the same community, but for various reasons see little of each other.

Inebriety

DR. S. R. CROWELL, Charlotte, advocated the establishment by the state of a sanitorium for indigent inebriates on the hypothesis that the habit is a disease. He said that it is useless to appeal to the will of a man when there is no will to appeal to.

The Public Relations of the Medical Profession.

DR. CHARLES A. L. REED, Cincinnati, pleaded for a larger participation in public affairs particularly by physicians, but devoted the major portion of the address to a discussion of society in general, and the medical profession as a typical social group, to show the duty of these groups in respect to legislation. He said that physicians ought to take a more prominent part in public affairs. He referred to the influence physicians had exercised in molding public affairs in this country and insisted that it is their duty to give to the public that assistance which their special knowledge can bring to bear on the solution of important public problems.

Epilepsy

The subject for the annual debate, a feature of the meetings of this association, was "Epilepsy." The discussion was participated in by Dr. Hodges, Richmond, Va., Dr. J. P. Monroe, Davidson, N. C., and Dr. T. P. Whitley, Charleston, S. C.

Tuberculosis

Another subject which came in for very full discussion was tuberculosis. In this connection the following papers were read: "The Out- and In-door Treatment of Tuberculosis," by Dr. Paul Paquin, Asheville, N. C.; "Modes of Infection in Tuberculosis," by Dr. Silvio Von Ruck, Asheville, N. C.; "Tuberculosis in Children," by Dr. Charles A. Julian, Thomasville, N. C., "A Further Report of Tuberculosis Cases from 1898 to 1906," by Dr. J. A. Burroughs, Asheville, N. C., "The Stomach in Tuberculosis," by Dr. L. G. Pedigo, Roanoke, Va., "Tuberculinum in Pulmonary Tuberculosis," by Dr. [illegible] Ringer, Asheville, N. C., "Creosote, Cod Liver Oil and Ichthyolated Emulsion Compound in Tuberculosis," by Dr. John Roy Williams, Greensboro, N. C., "Renal Tuberculosis," by Dr. LeGrand Guerry, Columbia, S. C., and "Tuberculosis of the Uterus and Its Adnexæ," by Dr. A. E. Baker, Charleston, S. C.

DR. L. F. BARKER, Baltimore, read a very interesting paper on "Recent Studies in Typhoid Fever."

Many other interesting papers were read, helping to make the meeting a very profitable one.

The entertainments provided for the visitors by the local committee included a reception and banquet and contributed very much to the success of the meeting from a social standpoint.

NEW YORK ACADEMY OF MEDICINE

Regular Meeting held Feb. 6, 1908

The President, DR. JOHN A. WYETH, in the Chair

Present Significance of Chorioepithelioma

DR. JAMES EWING is convinced that this group of tumors can be subdivided and different prognoses established on their histologic structure. Briefly, the conclusion was reached that chorioepithelioma includes three distinct tumors, which are distinguished by their gross appearance, histologic structure, prognosis and indications for treatment. The following classification and nomenclature was suggested:

1. Syncytioma.—Atypical chorioma of Marchand. This tumor produces a more or less diffuse infiltration of the myometrium or a large intrauterine tumor, leading to marked enlargement of the uterus, but not tending to perforate the organ and not giving metastases. Histologically the tumor is composed of large syncytial wandering cells in the walls of sinuses and in the musculature. Hemorrhage, cachexia, suppuration and perforation by the curette might prove fatal. In early stages the prognosis is good.

2. Chorioadenoma Destruens.—Malignant placenta polyp. This tumor tends to infiltrate the sinuses of the uterus, considerably enlarging the organ but not splitting it by a compact growth. Metastases occur in the lungs and vagina, but recovery may follow, certainly after vaginal metastases or after partial removal, possibly after pulmonary metastases. Histologically the growth shows villi.

3. Chorio-Carcinoma. This tumor produces a relatively small circumscribed growth in the musculature, tending rapidly to perforate the uterus without greatly enlarging it, and to cause local and pulmonary metastases. Histologically villi are absent. Langhans' cells and syncytium are present in masses. Morphologic signs of anaplasia and malignancy are always marked. The atypical and diffuse growth of cells yields a structure to which the term carcinoma is commonly applied. Tumors of this structure are probably always fatal. Operation sometimes seems to accelerate its course. The uterus should be removed as soon as possible. Infraction of the lines laid down in this classification might result in 1. Inability to determine the true position of the tumor, from insufficient curettings, 2. the occurrence of intermediate types of tumors, 3. differences in structure in different portions of the same tumor.

Recent Advances in Obstetrics

DR. EDWIN B. CRAGIN said that marked advances had been made along three lines—a better knowledge of obstetric pathology, a better knowledge of the mechanical problems of delivery and better procedures. In the pernicious vomiting of pregnancy, the chief pathologic lesion is a fatty and hydropic degeneration of the liver and if the condition exists long enough the lesions are practically identical with those of acute yellow atrophy. There is more or less degeneration of the renal epithelium of the convoluted tubules. The urine contains acetone, diacetic acid, B-oxybutyric acid, indican and perhaps a trace of albumin and a few casts. These cases as a rule show a high ammonia nitrogen, high amido acid and

and evening—and abundant demulcent drinks One patient had a craving for cocoanut milk and was given four nuts a day Lastly, all the cases were kept out in the verandah where a north-east breeze blew all day and night

Out of my series of five cases I only lost one No Spirochæta icterohæmorrhagica was found in any of the several smears of blood examined

As regards the mentioned rod-like bacilli I have not as yet been able to stain a specimen properly to be able to distinguish its several parts Some fresh specimens show an undoubted bipolar enlargement and granules They have a very active oscillating movement and thus make their way all round or across a corpuscle With Leishman's stain they appear as just symmetrical rods In the fresh specimen a refractile margin is distinctly visible

I do not think these bacilli specific of the disease as I have found them in very many other cases when the symptoms enumerated in the cases above, have been completely wanting

PRIMARY CARCINOMA OF THE LIVER

By W LEONARD FORSYTH,

Major I M S

Such cases are sufficiently uncommon to indicate their publication when they occur In South Africa cases of hepatic carcinoma with associated cirrhosis of the liver have recently been reported in Bilharzia infections There the sequence of events seems to be Schistosomiasis, Cirrhosis Primary hepatic carcinoma—chiefly liver-celled in type, although duct and mixed neoplasms have been described Sir Leonard Rogers found evidence of chronic amœbic dysentery in three-fourths of the cases of cirrhosis of the liver and describes cirrhosis as being common among Muhammadans There is no doubt that cirrhosis of the liver is a relatively common disease in India In hospital wards throughout the country the frequency of ascites attracts attention and a large proportion of these is directly the result of the portal strangulation of atrophic cirrhosis It has been my good fortune to see in the last few years, three undoubted carcinomata, primary to the liver, and I have reason to think they occur more frequently than we would believe The last of these is described below in macro— and microscopic detail —

Clinical Precis

Jabar Ali, Muhammadan male, aged 28 years, was admitted to the wards of the Mayo hospital on 15th February, 1922, under Colonel D W Sutherland, complaining of severe pain of two months' duration over his right hypochondriac area He showed slight jaundice and hæmorrhagic ascites red blood cells numbered 5 mills per c mm, white count 17 500, urine contained albumen but no bile Malignant disease of the liver was diagnosed and death occurred on 28th February, 1922

Post-mortem Record

The body is fairly well nourished, skin and conjunctivæ show slight jaundice

The pericardial sac contains one drachm of of serous fluid

Heart—Weighs 10 ozs, myocardium appears healthy, valve diameters aortic 1, pulmonary 1 1, mitral 1 5, tricuspid 1 8 inches, endocardium healthy throughout

The pleural sacs contain no free fluid and are healthy

Lungs—Right weighs 32, left 30 ozs, except for a moderate degree of hypostatic œdema these organs appears healthy

Abdomen—The peritoneal cavity contains over three pints of blood-stained fluid No tumour deposit can be seen in either visceral or parietal peritoneum The hepatic flexure is adherent to the under surface of the liver by recent fibrinous adhesions and the upper surface of the liver firmly adherent to the right cupola of the diaphragm by necrotic tumour mass

Liver—Is much enlarged and weighs 106 ozs, its surface is very irregular throughout with depressions and a general hobnailed appearance, the organ cuts with resistance and section reveals an atrophic multilobular cirrhosis with a certain amount of bile staining from biliary stasis this is best seen in the left lobe which is simply cirrhotic Section of the right lobe shows several white areas varying in size from a pea to some centimetres in diameter, many of these areas are necrotic and show hæmorrhages This tumour tissue at one point extends through Glisson's capsule and constitutes an adhesion between liver and diaphragm

Histology—The neoplastic growth is encapsulated by a loose fibrous tissue stroma and its cells are arranged in irregular columns, these cells stain more deeply than the adjacent liver cells, their nuclei are smaller, less vesicular, stain more deeply and show numerous mitotic figures, there is no connective tissue in support remarkably few blood vessels and the general appearance is that of a typical liver cells without delineation into liver lobules The normal liver lobule shows a moderate degree of central fatty degeneration and also some peripheral fatty infiltration Bile pigment as granules is seen within cells and also in bile capillaries These changes are not shared in by the tumour tissue cells

Here and there throughout the sections are smaller compensatory areas recognised by the larger size of cell, more deeply staining protoplasm and enlarged, sometimes multiple, and occasionally convoluted nuclei These areas have a close resemblance to the liver cell and maintain a normal relationship to the liver lobule arrangement It is probable that this

section might be done too often many patients might be delivered at the eighth month safely and well After Cesarean section the danger of rupture occurring at the site of the scar in subsequent labors should be borne in mind Therefore the induction of premature labor offers an advantage over Cesarean section

Dr F A Dorsey emphasized the clinical evidences of toxemia so often overlooked by the general practitioner The excretory and digestive functions the circulatory system the nervous manifestations, neuralgic or mental, should be investigated carefully The operation of instrumental rotation of the head is a valuable method in occiput posterior positions and is increasing in usefulness Rubber gloves should be used as a prophylactic measure The induction of premature labor has a large field and very successful results might be obtained by starting labor and getting a smaller child

Dr W Gill Wylie said that it has been his practice for over twenty five years to make a close study of all these cases from the beginning and it is amazing how often cases of toxemia and septic troubles can be averted

Medicolegal

Evidence Against Abortionist

The Supreme Court of New Jersey holds in the case of State vs Barnes that in the trial of an indictment for the commission of an abortion, bottles of ergot and knitting needles found in the house of the defendant were admissible in evidence when it appeared that ergot and needles were sometimes used to produce miscarriages

Privilege Can Not be Waived by Contestant of Will

The Supreme Court of Michigan says in re Mansbach's estate that it has held that privilege may be waived by the personal representatives of a deceased person But it holds that it can not be waived by a contestant of a will the latter not being a representative of the testator but standing in the suit in the attitude of an adverse party Such a one has no right to waive the statutory privilege

Malpractice May be Proved to Defeat Claims for Services

The Supreme Court of Michigan says in the case of Vandenburg vs Slagh that under proper pleadings malpractice may be proven for the purpose of defeating a claim for services rendered by a physician or surgeon

Physician Allowed to Testify to Result of Examination Made for State—Identifying Subject.

The Supreme Court of Washington says that in the prosecution for rape of State vs Winnett a physician was allowed to testify over the defendant's objection to the result of an examination made by him whereby he ascertained and so testified that the woman was in a family way There was nothing here tending to show that the relation of physician and patient existed between them or that any confidential relation whatever existed The record did not indicate but presumably the examination was made at the instance of the state and was made for the purpose of publishing the result of the examination No confidential relation appeared to be violated The case did not come within the spirit or reason of the law which prohibits physicians from giving information acquired in attending a patient and no error was committed in admitting the testimony objected to

But the defendant having married the woman in consequence of which as his wife she could not testify against him the court holds that it was error to have her brought in for the physician to identify as the woman whom he examined where her condition as to pregnancy which was a fact which the state sought to prove could be observed and noted by the jury It says that this might have been evidence of the most convincing and telling character and being produced before the jury just after the testimony of the physician in relation to her pregnancy and the possible length of time which she had been in that condition—presumably six months—it would not be slanderous to impute to the jurors a careful scrutiny of the witness with a view of determining for themselves the probable correctness of the physician's diagnosis It does not seem that it was at all necessary to parade her to the courtroom for the purpose suggested The physician could have testified that he knew her and that it was she whom he had examined, just as such identifications are ordinarily made

Rules as to Burden of Proof in Criminal Cases Where the Defense Is Insanity

The Supreme Court of Wyoming says, in the homicide case of State vs Pressler that, in criminal cases where the defense of insanity is interposed, three different rules as to the burden of proof of insanity have been adopted In a few jurisdictions the rule is that the burden rests on the defendant to establish his insanity at the time of the commission of acts charged beyond reasonable doubt This view has not met with much favor, the overwhelming weight of authority being against it

Another rule viz that the burden is on the defendant to prove insanity by a preponderance of the evidence has been adopted by the courts of last resort in many of the states and was the one contended for by the attorneys for the state in this case who cited in their brief cases from the states of Alabama Arkansas California Georgia Iowa, Kentucky Louisiana Maine Massachusetts, Minnesota Missouri Nevada New Jersey North Carolina Ohio Oregon, Pennsylvania South Carolina, Rhode Island Utah Virginia Washington and West Virginia In the states of Oregon and Louisiana the matter is regulated by statute

The third rule, viz. that the burden of proving the sanity of the defendant rests on the prosecution and that it must do so beyond a reasonable doubt in order to convict, or in other words if on all the evidence in the case the jury entertains a reasonable doubt as to the sanity of the defendant at the time of the commission of the act, it should acquit is the rule adopted in the states of Colorado, Connecticut Delaware Florida Illinois, Indiana, Kansas Michigan Mississippi Montana Nebraska, New Hampshire, New York Tennessee and Wisconsin and in the territories of New Mexico and Oklahoma and also by the Supreme Court of the United States

And this court holds that as sanity is the normal condition of the human mind that condition is presumed, in the first instance to exist and has the force of evidence sufficient, if uncontradicted to establish the sanity of the defendant That is it makes a prima facie case and nothing more and when the right to a conviction is challenged by evidence in the case tending to show the insanity of the defendant at the time of the homicide the burden does not shift but still rests with the prosecution to show that the defendant was criminally responsible That seems to be the most reasonable rule

Physician Employed by Company as Witness

The Supreme Court of Colorado says on the appeal of the Colorado Midland Railway Company vs McGarry a personal injury case brought by the latter party that the company called as a witness a physician and asked him concerning the plaintiff's condition at the time the physician made an examination of him soon after the injury was inflicted It appeared that this examination was made as the result of instructions to the witness from the company's chief surgeon The plaintiff refusing his consent objected to this testimony on the ground that it was forbidden by the Colorado statute, which reads A physician or surgeon duly authorized to practice his profession under the laws of this state shall not, without the consent of his patient be examined as to any information acquired in attending the patient which was necessary to enable him to prescribe or act for the patient' The company claimed the evidence was competent because the witness was not employed by the plaintiff as a physician, and that the plaintiff at the time was not his patient Counsel cited to this point Heath vs Broadway & S A R Co 57 N Y Super Ct 496 8 N Y Supp 863, and 23 Am & Eng Ency Law (2d Ed) 85 The court holds that the company's objection to a ruling excluding the offer was not tenable It says

escape of vitreous and hence prefer to extract with capsulotomy in such cases

(b) Ordinary cases which appear quite normal but which resist what I consider legitimate pressure by the intra-capsular method There appears to be great difficulty in rupturing the zonula and the lens does not present at the corneal incision, as it should In such cases I prefer to re-insert the speculum and extract with capsulotomy rather than court disaster in the shape of a large escape of vitreous which unfortunately has been my experience in several cases

Only experience can enable the operator to decide what is the legitimate amount of pressure to be employed, but I am convinced that several individuals would now have better sight, if the operator had not proceeded to use too much force in his endeavour to rupture the zonula These cases are not of very frequent occurrence not amounting to more than 2 per cent or 3 per cent of ordinary senile cataracts

(c) Some cases of cataract in those between 35 and 50 years of age Here again one can only learn by experience but when I see a case of double cataract in a comparatively young individual with dark hair I am always prepared for trouble For in these cases the zonula often proves very resistant to pressure by the intra-capsular method and if pressure is too long persisted in the zonula breaks as it were with a snap and out comes the lens followed by vitreous In such cases it is therefore necessary to beware and if there is great difficulty in dislocating the lens, it is better surgery to reinsert the speculum and perform a capsulotomy

(d) Cataract in glaucoma and glaucomatous cataract

As regards the former, defined by Smith as cases in which glaucoma has set in during any stage of the normal development of cataract, Smith's treatment in the initial stages would be accepted by most, namely that of performing a large sized iridectomy provided the cataract is not of the swollen or intumescent variety But instead of extracting in the capsule as he recommends, 3 months or so later I think that extraction with capsulotomy is preferable, as in such cases there is a distinct danger of choroidal hæmorrhage, which is probably more likely to occur when the intra-ocular tension is suddenly reduced as in the intra-capsular operation, than when it is more gradually reduced, as in the operation with capsulotomy

As regards glaucomatous cataract, *i e*, cataract which has glaucoma as its cause, it is seldom fit for operation But there are a few cases in which there is some reaction of the pupil and some perception of light These are not always hopeless In such cases, as in those of cataract in glaucoma, a wide iridectomy, followed 3 or 4 months later by extraction with capsulotomy is sometimes attended with success

And I would add to these cases, those in which the tension is slightly up, for I have no doubt that in such cases, choroidal hæmorrhage does tend to occur In fact recently at Shikarpore there were cases, which demonstrated the fact Both patients had double cataract with no other symptoms of glaucoma except tension rather raised Both pupils were active and perception of light good In both cases both cataracts were extracted with capsulotomy in one eye and in the capsule in the other In both eyes in which intra-capsular extraction was performed, choroidal hæmorrhage occurred, while the eyes in which extraction with capsulotomy was done escaped The cases were decidedly instructive .It is possible that had a preliminary iridectomy been done, followed by extraction a month later, both eyes might have been saved

(*e*) *Traumatic Cataract*—In these cases I think capsulotomy is advisable, for I have found a decided tendency to escape of vitreous when such cataracts are extracted in the capsule and now I never attempt to do so The reason for the tendency for vitreous escape is, I imagine, because the hyaloid membrane has been ruptured by the blow which has caused the cataract

I have given briefly the above 5 additional contra-indications to the intra-capsular operation not because I do not believe in that operation but in the hope that by frankly admitting certain contra-indications, the intra-capsular operation will become more wide-spread than it is at present For these contra-indications do not amount to 5 per cent of all cases of senile cataract and for the remaining 95 per cent, I feel no doubt that intra-capsular operation is the operation of choice But it is more than possible certain operators may have been unsuccessful in some of their intra-capsular work, from ignorance of these contra-indications I am certainly among that number and have learnt by sad experience the kind of cataract that should be left alone, as far as the intra-capsular operation is concerned

A Mirror of Hospital Practice.

A CASE OF LARGE OVARIAN CYST

By C B McCONAGHY, MB,
LT.-COL, I M S,
Sehore, Central India

A WOMAN by name Mano, wife of Dalloo, aged about 40, Silawat by caste, from

the skin, bones and joints are due to a break in what we have called for convenience, the neurovascular mechanism of the part involved. 2. This break may be situated centrally, on the neural side or on the vascular side. 3. Rational treatment of such conditions will be directed toward modification of (a) the blood supply or (b) the nerve function of the part. 4. For modification of the blood supply we have active and passive hyperemia increasing it, and positive pressure by bandaging, pneumatic cabinet or the immersion in mercury, decreasing it. 5. For modification of the nerve function we have nerve stretching, neurolysis and nerve disassociation and electricity. 6. Nerve stretching is probably to be condemned, similar results being obtainable by the simpler passive hyperemia.

4 **Psychology in Medicine**.—Ring urges that physicians should become better acquainted with the exact meaning of psychologic terms with which to express the mental state of their patients. One is struck, in the average case record in a nerve clinic by the fact that, while physical data are carefully detailed, the one item that would make the picture vivid and give it personality—a statement of the mental life—is omitted or at most is put down as nervous, irritable, depressed, etc. He reproduces Kraepelin's analysis of dementia praecox to illustrate the proper application of the psychologic method.

Medical Record, New York.

February 29

5 *Chronic Sigmoiditis. H. Stern, New York.
6 Cardiac Hydrothorax. Report of Case Aspirated 311 Times. W. T. Gibb, New York.
7 *Acute Bulbar Paralysis with an Unusual Symptom. A. Gordon, Philadelphia.
8 Significant Features of Middle Ear Suppuration in Infancy and Childhood. S. J. Kopetzky, New York.
9 *Dangers Attending Operative Intervention in Gonorrheal Salpingitis. J. S. Price, Beaumont, Texas.
10 Ether Anesthesia. D. Loree, Ann Arbor, Mich.

5 **Sigmoiditis**.—Stern discusses this condition at length and, judging from his own experience only, concludes that inflammatory processes occur fully as often in the sigmoid flexure as in the cecal and appendicular regions. There is no question that the inflammatory condition may be limited to the sigmoid flexure and we must logically assume that in some cases at least it may be idiopathic, though others may be the consequence of some pre-existing condition. Habitual obstipation and long continued drug cathartics are the direct inadequate or perverse nerve impulse in the descending or sigmoidal colon, the indirect predisponents. Intestinal spasm, atony or paresis by giving rise to obstipation may be remote causes. Chronic sigmoiditis may be associated with numerous concomitants and complications. The causal indication for treatment is the regulation of functional activity of the sigmoid. Sigmoidal spasm is readily amenable to atropin, hypodermically in doses of 1/100 grain (0.0006 gm.), less pronounced enterospasm often yields to prolonged administration of lupulin in daily doses of from 2 to 4 grains. Stern gives the following combinations:

R	gm		
Lupulini			
Stronthi bromidi	aa 1.5	or	gr. lss.

Ft. cap. d. t. dos. No. 30.
Sig. Two capsules from three to five times a day.

R	gm		
Lupulini	0.3	or	gr. 1-.
Pulv. ipecacuanhae	0.2		gr. ½.

Ft. caps. d. t. dos. No. xx.
Sig. One capsule from four to six times a day.

Lupulin in suppositories is useful; strychnin and tonic medication he finds inefficient. Regulation of diet is the chief point. Preponderance of proteids leaves little residue and tends to obstipation; carbohydrates produce fermentation and consequently mucosal irritation. The best diet is one in which green vegetables and absorbable fat, like yolk of egg, predominate. Exercise is important—walking, calisthenics, gymnastics. Passive exercise he considers overrated; the best form is a strong faradic sinusoidal current. Hydrotherapy, except hot rectal irrigations, is of little value. For pain opium should never be given; hot applications and counterirritation and suppositories of belladonna, with lupulin in gram doses if tenesmus is present, may be used. Local treatment is imperative. The necessary reduction of peristalsis may be effected by belladonna, lupulin, valerian, viburnum, bromids, chloral, cannabis indica, etc. The sigmoid should be entirely evacuated by a high enema of warm soapsuds. Irrigations of fresh infusion of chamomile flowers or sage (sage, 15 grams, boiling water 500 c.c.), soothe the irritated mucosal surface. Very mild astringent irrigations (borax or boric acid 2 per cent., zinc sulphate, 1 in 1,000, lead acetate, 2 in 1,000 or aluminum acetotartrate 10 in 1,000). Protective agents may be injected as an emulsion through a stiff catheter. Stern gives the two following prescriptions:

R	gm		
Menthol	2.5		gr. xv
Oil of eucalyptus	20		3v
Bismuth submitrate	13	or	3iii
Glycerin	15		3ss
Gum tragacanth and water q. s. ad	60		3ii
R	gm. or c.c.		
Oil of eucalyptus	30		3i
Bismuth submitrate	30		3i
Olive oil	15	or	3ss
Powdered gum acacia			
Make emulsion			
Water enough to make	60		3ii

7 **Acute Bulbar Paralysis**.—The evidences in Gordon's case clearly point to a bulbar affection. The unusual symptom is loss of speech, depriving the patient a woman, of the power of even pronouncing letters, though she is able to emit sounds or syllables more or less resembling words. There is no interference with intelligence and no agraphia.

9 **Gonorrheal Salpingitis**.—Price reports a case of operation in which death, probably due to gonorrheal endocarditis ensued without warning on the fifteenth day of what appeared to be an attack of acute rheumatism which began on the second day after operation. He calls attention to the likelihood of gonorrheal rheumatism being awakened by operation in specific infections.

New York Medical Journal

February 29

11 *The After Care of the Insane. F. Peterson, New York.
12 *Conservative Prostatectomy. I. Cabot, New York.
13 *Gastrointestinal Symptoms of Middle-Ear Suppuration. I. Fischer, New York.
14 *Indications for Surgical Intervention in Suppurating Middle Ear Diseases of Infancy and Childhood. I. Cohn, New York.
15 *Present Status of the Etiology of Syphilis. R. C. Rosenberger, Philadelphia.
16 Case of Aortic Regurgitation and Floating Liver. I. I. Magruder, Washington, D. C.
17 *Orthopedic Therapy During the Early Stages of Acute Anterior Poliomyelitis. J. J. Nutt, New York.
18 Case of Biliary Fistula Between the Gall Bladder and the Stomach with a Stone in the Hepatic Duct. G. M. Dorrance, Philadelphia.

11 **After Care of Insane**.—Peterson points out that insanity is a protracted malady, and that convalescence and cure are matters of months or even of years. After return from hospital the patient feels like Rip Van Winkle, out of touch with all his surroundings and moreover returns to a similar, or perhaps harsher environment than that in which his mind first broke down. Peterson discusses the history of the movement for the after care of the insane and proposes an association comparable to the old English Guild of Friends of the Infirm of Mind" to be composed of hospital physicians, local practitioners, lawyers, clergymen, business men and their wives whereby not only will the immediate objects of the care of the individuals benefit but a knowledge of the predisposing conditions will be acquired, preventable causes will be recognized and earlier treatment be instituted.

12 **Prostatectomy**.—Cabot divides prostatics into three groups. 1. Those beginning to show evidence of prostatic obstruction. 2. Those who have two or more ounces of residual urine, who are straining considerably, and who rise four or five times at night to empty the bladder. In these cases there nearly always some enlargement of the prostate. 3. In the third group are those prostatics who can no longer be treated by palliative measures. In the first group no operation is

Indiana State Journal of Medicine, Fort Wayne

February

31 Direct Laryngoscopy and Tracheobronchoscopy J. J. Kyle Indianapolis
32 *Diagnosis of Intestinal Obstruction E. Walker Evansville
33 Surgery of Gall-stone Disease T. B. Eastman Indianapolis
34 Report of a Series of Leukemic Cases, Symptomatology and Treatment F. B. Wynn Indianapolis

32. **Intestinal Obstruction**—Walker says that in all cases in which pain, vomiting, corprostasis and meteorism are the symptoms we should be on the lookout for mechanical obstruction. He discusses in detail each of these symptoms, cautions against the repeated use of purgatives and against masking the pain by morphin as well as against the error of undue delay in the effort to make an exact anatomic and pathologic diagnosis which is often impossible. One is rarely justified in waiting more than from six to twelve hours. Hernia must, of course, be looked out for. The all essential point is the earliest possible diagnosis of the obstruction, followed by prompt surgical intervention.

Vermont Medical Monthly, Burlington

February

35 Control of the Lymphatics in Infections of the Extremities H. I. Burrell Boston
36 *Intestinal Obstruction J. Allen Burlington
37 Address at Annual Banquet of the University of Vermont Alumni Boston H. C. Tinkham Burlington

36 **Intestinal Obstruction**—Allen sums up the treatment of intestinal obstruction as follows: In all mechanical ileus operate. Never try cathartics. In early dynamic ileus or the distension so often seen after laparotomy use stomach and rectal irrigation, saline solution and cathartic enemata. This condition is probably due to slight peritoneal infection or trauma. Eserin, atropin and morphin (sometimes) are indicated. Operation if done must be with the idea of removing some definite local septic focus.

Washington Medical Annals.

January

38 Philosophic Foundations of Charlatanry in Medicine D. K. Shute Washington
39 Case of Typhoid with Diphtheria in a Child S. S. Adams Washington
40 Cauterization of Pterygium F. B. Loring Washington
41 Sexual Differences in Skull and Other Parts of Skeleton A. Hrdlicka Washington
42 Review of Internal Medicine W. W. Wilkinson Washington
43 Case of Infectious Cerebrospinal Meningitis J. D. Morgan Washington
44 Progress of Neurology D. P. Hickling Washington
45 Experience with Hyoscin, Morphin and Strychnin as a Surgical Narcotic W. A. Jack, Jr. Washington
46 Case of Calculus of Ureter C. T. Vaughan Washington
47 Case of Aneurism of Aorta F. F. Harrington Washington
48 Etiology of Chorea J. S. Wall Washington
49 *Annual Report of the Committee on Public Health, December 1907

49 **Annual Report of the Committee on Public Health**—The principal object of this report, which is based on the mortality statistics of scarlet fever, diphtheria and measles in ten American and six European cities, is to determine whether or not municipal quarantine has reduced the mortality from these diseases. The conclusions arrived at are in brief that there has been a marked decrease in mortality from scarlet fever, diphtheria and measles for the most part since the introduction of antitoxin and the establishment of municipal quarantine. The mortality of diphtheria, which for the last ten years shows an average decrease of 36.6 per cent. for sixteen cities, can be best accounted for on the theory that it is due to the antitoxin treatment. The average reduction of mortality in measles for the same period and cities, 27.4 per cent., can best be accounted for on the theory that it has been brought about by the measures employed by private physicians and the people on their own account. In scarlet fever the mortality reduction, which under the same conditions has an average of 47.9 per cent., may be attributed perhaps one half to municipal quarantine, the remainder to the measures of physicians and people. While somewhat disappointing, the showing of municipal quarantine justifies the continuance of the service and its extension to include measures, provided unreasonable and unnecessary features, which engender prejudice and opposition, can be eliminated. The placarding of houses is chief of these features, and as effective quarantine can only be enforced by careful supervision and health authorities it would be a gain to let such supervision entirely supersede placarding, the feasibility of which omission is shown in New York and European cities. The laws and regulations must be adjusted to meet the requirements for each particular disease. The European, and some American, showing justifies quarantine hospitals for those who can not be properly isolated and cared for at home. The inadequacy of terminal disinfection requires that it should be either replaced or supplemented by the maintenance of absolute and constant disinfection throughout the entire course of the disease until all possibility of infection is known to be over. The report is liberally illustrated with charts and explanatory tables.

Long Island Medical Journal

January

50 Marital Maladjustment, the Business of Preventive Gynecology R. L. Dickinson Brooklyn, N. Y.
51 *Sources of the Contamination of the Air in New York City D. D. Jackson Brooklyn, N. Y.
52 Cholecystitis in Typhoid M. Figueira Brooklyn, N. Y.
53 *Sudden Death W. N. Belcher Brooklyn, N. Y.
54 Control of Social Disease N. P. Rathbun Brooklyn, N. Y.

51 **Contamination of the Air in New York**—Jackson discusses the dangers of excessive or contaminated dust, and the constituents of street dust, and the smoke nuisance. He then proceeds to a consideration of infection from flies, the substance of which is contained in a report which was discussed editorially in THE JOURNAL Jan. 18, 1908, page 210.

53 **Sudden Death.**—Belcher investigates the causes and conditions of sudden death particularly with reference to the findings of the coroner for the Middlesex district of London and draws the following conclusions: Sudden death is of frequent occurrence, too frequent. Changes and conditions in the vascular system are responsible for nearly 90 per cent. of all sudden deaths from natural causes. No matter where we trace the source of the trouble, we come back to the vascular system as the responsible factor. Sudden death can be explained in many cases. In others it is very largely a matter of conjecture, and in none can it ever be satisfactorily explained without autopsy. Many of these sudden deaths, although absolutely unavoidable, are often thought to be preventable by the great non-medical public. It is the duty of the physician to safeguard his patient, so far as may be possible, against this accident by a careful estimate of the case at hand by every known method of diagnostic procedure. So-called sentiment should never be allowed to stand in the way of the investigation into the cause of death by postmortem examination, in all cases in which death is sudden and wholly unexpected.

Northwestern Lancet, Minneapolis

February 1

55 *Rocky Mountain Spotted Fever W. M. Chowning, Minneapolis
56 Practical Suggestive Therapeutics A. F. Clough, Madison, S. D.
57 Diseases in Which Frequency and Pain in Urination Are Prominent Symptoms, with Suggestions as to the Diagnostic Technic A. W. Abbott, Minneapolis

55 **Rocky Mountain Spotted Fever**—Chowning refers to a statement in the *Journal of Infectious Diseases* (Vol. I, No. 1, page 44) to the effect that in the blood in seventeen cases of this disease no bacteria were found. A study of the material from these cases, however, shows that organisms apparently of plant life are present in eight of them. He describes the technic of examination and the morphology of the clumps, and gives a preliminary note on beerwort as a culture medium.

Laryngoscope, St. Louis

December

58 *Tuberculosis of the Mouth R. Levy, Denver
59 *The Tonsils and Their Relation to the Development of Tuberculosis I. Danziger, New York
60 Etiology of Tuberculosis of the Upper Respiratory Tract C. B. Wood, Philadelphia
61 *Baneful Influence of Pregnancy on Laryngeal Tuberculosis W. Freudenthal, New York
62 *Tuberculosis of the Larynx and Pregnancy A. Luttner, Berlin, Germany
63 Histologic Examination of a Window Resected Septum J. C. Beck, Chicago

58 *This article was published in Denver Medical Times*, December, 1907, and abstracted in THE JOURNAL, Feb. 15, 1908, page 563. The present publication, however, adds eleven colored plates.

another slide taking care to draw the spreader in only one direction The smears are dried in the air or over a flame, fixed with alcohol or equal parts of alcohol and ether and stained by Giemsa's method or by diluted Leishman's stain, or they may be stained by the ordinary Leishman's method without preliminary fixation Smears prepared in this way usually contain several portions of capillaries of varying lengths which, in cases of cerebral malaria, are filled with malarial parasites (See plate)

Altogether four cases of cerebral malaria have come to my notice at the post-mortem examination and in all of them I have been able to demonstrate the parasites clearly by the above method No special apparatus is required and the diagnosis can be made in a few minutes A few remarks about these cases may be of interest —

Case No 1—A Mahomedan labourer, aged 24, no history available, was said to have attended the morning sick parade He was marked for "medicine" and "no duty," and was found dead in his tent the following morning

Post-mortem—Brain markedly congested, spleen small, surface mottled, naked eye appearance of other organs normal

Case No 2—A Chinaman, aged 28, marked jaundice, temperature subnormal He was brought to hospital unconscious in the evening, died during the night

Post-mortem—All the organs were bile-stained, spleen enlarged and congested, brain congested

Case No 3—An elderly Indian He was picked up by the Police in an unconscious state and sent to Hospital in the evening Temperature on admission subnormal He died during the night

Post mortem—Spleen enlarged and congested, surface of brain of a peculiar "dusky" colour, other organs pale and anæmic

Case No 4—A middle-aged Indian Admitted to hospital with high fever and an enlarged spleen The blood examination showed a heavy infection with subtertian rings and crescents The patient did not respond to quinine treatment and died within two days of admission

Post-mortem—Spleen enlarged and congested, brain congested, other organs normal

It will be seen that of the four cases only one was diagnosed as malaria, before death In cases Nos 1 and 2, the blood obtained at post mortem was examined and found to contain large numbers of sporulating forms of P falciparum

In conclusion, my thanks are due to Sir Andrew Balfour and Dr Manson-Bahr for kindly examining the smear and to the former for very kindly having drawings made and exhibiting them among the collections of the Wellcome Bureau of Scientific Research, South Kensington My thanks are also due to Lieut-Col T H Gloster, I M S, for encouraging me to publish these notes and to Major A Whitmore, I M S, for his lucid expositions of post-mortem technique

A CASE OF MULTIPLE HÆMORRHAGES

By S R. PRALL, M.B, B.C. (Cantab),
CAPTAIN, I M S,
Indian Station Hospital, Hyderabad, Sind

A W, aet 23 years, was admitted to hospital on 17th August 1921, complaining of spitting up blood

History of present condition —Patient stated that for the first time in his life he spat up blood, bluish in colour, frothy, and about six ounces in amount He spat it up in the same manner as phlegm and it tasted bitter Previous to this hæmoptysis he had been in perfect health He denied having been bitten by a snake

Past History —Occupation before joining the Army, was a 'glass blower" for a period of twelve months Resident in India for one year and had never previously lived in the Tropics No history of malaria, ague, or hæmophilia

Condition on admission —T-98 4°F, P-92, R-16 General condition, good and constitutional disturbances, nil Sallow complexion Eyes, normal Tongue, neither furred nor swollen but hæmorrhages present both at the tip and the base, consisting of circular patches about one-third of an inch in diameter These hæmorrhages had partially clotted but on removing the clot oozing continued Gums not spongy but there was bleeding at the junction of the teeth and gums The teeth were not loose and there were no signs of pyorrhœa

Breath was very foul No blood effusions under the angle of the jaw Lungs were emphysematous and some bronchitic rales heard on right side No signs of tubercle, and no cough No loss of weight recently The heart was dilated downwards and outwards and a murmur heard at the apex, probably hæmic in origin, since it was not conducted Spots of a dull red colour, which were circular in outline, varying in diameter from a millimetre to a centimetre, which did not disappear on pressure, and which were not raised above the surface, were scattered over the whole of the thorax, abdomen, and limbs They had no special relation to the hairs and

membrane and pass through the entire thickness of the lip except only the integument, they may be tied over small lead or silver plates perforated for the purpose The cutaneous wound should be exposed to air for several hours to permit escape of serum, then coated with collodion Success depends on prevention of hemorrhage, and this is accomplished by operating slowly and attending at once to every bleeding point The head should be lowered not only to prevent the swallowing of blood, but to make the surgeon aware of the extent of bleeding The essential of after treatment is rest, for which opiates should be given if necessary McGraw thinks it unfortunate that the prevalent opinion of the medical profession, that clefts of the palate may not be closed until the child is several years of age, is so firmly fixed There should be a determined effort to cure these children in infancy, and he feels confident that our methods may be so improved as to warrant very early operations if only we can attain to the necessary experience He considers that the Brophy operation has come to stay For suture material he approves of metallic sutures to relieve tension with fine sutures of iron dyed silk to secure union of the cut edges In the after treatment he lays particular stress on the necessity of avoiding nervous disturbance in children of nervous temperament No general rule can be adopted in regard to the indications of absolute rest, avoidance of sepsis, and comfort and good health of patient, because they are not always compatible among themselves Frequent douching of the mouth and nostrils, for instance, while undoubtedly serviceable, is not always necessary and incidentally may do more harm than it does good directly

United States Naval Medical Bulletin, Washington.

January

78 *Preliminary Report on Gangosa and Allied Diseases in Guam A J Geiger U S Navy
79 Hypertrophic Arthritis of the Spine H W Smith U S Navy
80 Beriberi at the United States Naval Hospital Norfolk Va O J Mink and R C Holcomb U S Navy
81 *Guha (epidemic bronchial asthma Guam) F E McCullough U S Navy
82 Patients Burned in Accident on U S S *Georgia* W H Bucher U S Navy
83 Case of Psychical Aphonia J L Belknap U S Navy
84 Case of Ruptured Kidney F Thompson U S Navy
85 Case of Dementia Paracox S H Dickson U S Navy
86 Case of Abscess on the Diaphragmatic Pleura During an Attack of Malaria B I Jennes U S Navy
87 Case of Hernia with Appendix Adherent to Sac. R C Holcomb U S Navy

78 **Gangosa**—Geiger divides the ulcerations of the upper portion of the respiratory tract, which are common in Guam, into three groups 1 Ulcerations that yield readily to antiseptic treatment These are all due to ordinary pus organisms principally the *Bacillus pyocyaneus* 2 Ulcerations that yield slowly to antiseptic treatment This group covers a large percentage of the cases and to it the term gangosa should be limited He describes the mortality, staining properties culture characteristics and pathogenesis of an organism found present in all active cases and believed to be the etiologic factor for the following reasons (a) The organism has been found in every case examined in which the disease was still active (b) In acute cases in which the conjunctivæ are involved by extension of the disease the organisms are generally found in pure culture in the conjunctival sac If a case with extensive ulceration be treated for several days with antiseptics a large portion of the ulcerating surface will present healthy granulations and begin to heal Small areas however will often be found which continue actively ulcerating In many instances bone destruction will be going on at these points The organisms can invariably be found at these points until all active ulceration ceases Healing sometimes proceeds over an ulcerating surface leaving here and there a wart like projection After an interval of time this breaks down leaving a very small ulcer If just before it breaks down completely the surface is removed with antiseptic precautions the organism is found in pure culture in the pus thus obtained Sections from the wart like projections often reveal the organisms in groups just beneath the epithelium The organism closely resembles the *Bacillus diphtheriæ* from which it is doubtful if it can be distinguished 3 Ulcerations that are only reached by antiseptic treatment This group is characterized by the formation of distinct tubercles or nodules, which may involve the skin or mucous membrane of the nose, soft palate, pharynx, larynx, or lips He describes an organism constantly associated with the disease and believed to be the etiologic factor A consideration of this disease from all its aspects leaves no doubt that it is rhinoscleroma

81 **Guha.**—McCullough gives further notes of the recent epidemic of a disease described by Freeman in the July number of the *Bulletin*, consisting of a septicemia epidemic, and characterized by hemorrhagic infarction of the lungs, intestinal ulceration, cloudy swelling of the parenchymatous organs, and enlargements of the mesenteric and mediastinal lymph nodes The initial symptoms occur either in the lungs (pneumonic type) or intestinal tract (enteric type) In the primarily pneumonic type the enteric symptoms never become the more prominent, and vice versa The course of the pneumonic type is sharply defined from bronchial asthma in the following respects 1 The number of respirations is considerably increased 2 There is continued fever 3 The amount of expansion is not so disproportionate to the respiratory movements 4 Inspiration is not so short and quick and expiration is not so prolonged 5 The percussion note has not the same hyperresonant quality 6 Paroxysms subside gradually, never suddenly The treatment is symptomatic

Yale Medical Journal.

January

88 Laryngeal Tuberculosis F S Crossfield Hartford Conn
89 *Toxic Amblyopia E M Blake New Haven Conn
90 *Diagnosis of Tumors of the Bladder H Binney Boston
91 Diagnosis and Treatment of Psoriasis M S Bradley Hartford Conn
92 Split Proteid in Infant Feeding W G Murphy Hartford Conn

89 **Toxic Amblyopia**—According to Blake quinin, methyl alcohol, lead, arsenic, stramonium cannabis indica, coffee and other substances may produce toxic amblyopia, but he confines his paper to the effects of tobacco and alcohol, which are answerable for a large percentage of cases He describes the ophthalmic conditions and the methods of induction of the disease The condition is more common in those who use tobacco only than in those who use alcohol only, whence Blake regards tobacco as the more potent etiologic factor, though most persons affected use both It has not been definitely proved that nicotin or some of its by products and alcohol exert a specific action on the nervous structure, though it is a matter of reasonable induction If the patient is seen before the pallor of the discs sets in (due first to anemia and later to atrophy of nerve) restoration of sight practically to normal may be expected With an atrophic nerve the prognosis is less good, but better vision may be expected on withdrawal of the poison Absolute blindness never results Complete stoppage of tobacco and alcohol in mild cases suffices for a cure Potassium iodid, with Turkish baths and regulation of diet, may aid elimination, the iodid may be continued as an alterative when improvements ceases Strychnin in ascending doses may be used with great advantage The use of the eyes for close work should be prohibited Three cases are reported

90 **Tumors of the Bladder**—Binney says that in the adult the clinical picture of bladder tumors in an early stage resembles that of other bladder or kidney conditions so closely that an absolute differential diagnosis can not be made by ordinary methods While unnecessary, and possibly harmful, in very advanced cases of cancerous infiltration and less important in those rare cases in which large fragments of the tumor are passed affording material for pathologic examination, cystoscopy should always be resorted to in early or suspected cases By this means only can the presence of tumor be determined in many cases while in those in which the evidence is more complete, not only is the clinical diagnosis confirmed in the most brilliant way but data of the greatest importance as to prognosis and treatment are obtained

American Journal of Surgery, New York

February

93 When Shall We Operate in Ulcer of the Stomach? F Torek New York
94 Diagnosis of Malignant Tumors of the Bladder L Heitzmann New York
95 Traumata of the Kidney W I Crawford Savannah Ga

Indian Medical Gazette.

AUGUST

MEDICAL EDUCATION IN THE UNITED STATES AND IN INDIA

We have received from Major E W C Bradfield, I M S a copy of his report dated Dec the 13th, 1921, to the Surgeon General with the Government of Madras, after return from deputation to the United States It is a report which will give those in charge of medical schools in India "furiously to think" "In the United States," writes Major Bradfield, "the conception of a University Medical School includes not only the treatment of the sick and the teaching of the student, but also active investigation of disease A similar ideal exists in English Schools but it is characteristic of the American spirit that this should be more systematised, more standardised, and if I may say so, more card indexed In India the need for research has been obscured by the urgent necessity of providing medical relief in a country where the medical profession was almost non-existent, while also the trustees of medical education (Government) in their desire to keep the cost of medical education within a very limited budget have failed to appreciate the fact that a teacher, in order to fill his class with enthusiasm for medicine as a science must himself be a worker"

Major Bradfield's account of the different institutions visited is full of interest At the College of Physicians and Surgeons, Columbia University, the minimum requirements for admission are a two years course of previous college education, whilst more than 60 per cent of students admitted have put in a four years' college course and have already taken their B A before admission as medical students Although there are some 700 applications a year for admission, admissions are limited to 100 a year, and the most strict selection practised Chemistry and the preliminary scientific studies having been already acquired by the student before admission, two years are given to anatomy, embryology, physiology, pathology, pharmacology and allied subjects followed by two years of medicine, surgery, and general work in the wards and dispensaries For 400 students a teaching staff of 178 is maintained, including 38 professors The courses are exceedingly thorough and special attention is paid to biology, whilst special clinics in many different medical and surgical branches are a special feature of the course Inferior students are steadily weeded out during the course of training, and after passing the M D the student is expected to spend at least a year doing interne work before he commences to practise outside The course on operative surgery is very thorough and the student is led to human surgery through a course of animal surgery and animal pathology

At the Presbyterian Hospital in New York the special features are a record room, the unit system and the follow-up-system for patients In the record room a staff of one head clerk and four record clerks are fully occupied with the filing and keeping of the records for a hospital with only 200 beds In the unit system every patient is considered as a separate unit, and every note on his case from every department concerned is bound in a separate volume —a volume which often contains invaluable information if the patient again visits the hospital, perhaps years later By the follow-up-system every discharged patient has to report on a certain date his state of health and at a still later date to return for re-examination as to end results Such terms as "cured" or "improved" are not permitted a numerical estimation of the degree of improvement being used instead

From New York, Major Bradfield travelled to Boston Here at the Massachusetts General Hospital there are 158 doctors on the staff for 334 patients, with 28 additional residents For the Harvard M D course there are 72 whole-time teachers, including professors for 472 students Classes are confined to 100 students and practical classes are formed in groups of 25 students each group working under a tutor All attempts to increase the numbers of students have been vigorously resisted The requirements for admission as a medical student are a previous degree in arts or science, and two years of completed college work in preliminary scientific subjects, with two modern languages Set lectures are few their place being more generally taken by conferences at which the students take as much part as the professors "The trend of opinion in America is to train the student very

the ovary, their multiplicity in the same ovary, and their occurrence in both ovaries of the same subject The patient is, while yet an embryo, the mother of the teratoma The father of the teratoma is the father of the patient As regards the occurrence of such cysts in the testicle, this theory involves a hermaphroditic condition of the gland in which the cyst is formed, and the intra embryonic fertilization of one of the ova The rarity of the glandular hermaphroditism accords with the rarity of testicular teratoma On any of the other theories advanced such cysts should be as frequent in the testicle as they are in the ovary

2 Tuberculin Treatment of Tuberculosis—Summing up his own views on the distribution of tubercle in the human body, Raw says, speaking provisionally and without any final evidence of proof, that (1) tubercle bacilli of the human type produce phthisis pulmonalis, ulceration of the intestines, and tuberculous laryngitis, and (2) tubercle bacilli of the bovine type produce tuberculous peritonitis, tuberculosis of the lymphatic glands, tuberculous joints, meningitis (probably), and lupus He is of the opinion, also, that acute miliary tuberculosis is of bovine origin Working on the hypothesis that the human body is attacked by two varieties of tubercle which may be present at the same time, and which, generally speaking, are antagonistic to each other, he has been occupied in trying to produce tuberculins for these different lesions He concludes that Koch's tuberculin has little or no healing effect in phthisis pulmonalis, as was to be expected on his theory, since that tuberculin is produced from human tuberculosis For this condition he has prepared a tuberculin from typical bovine tuberculosis (*perlsucht*) cultures, and finds that eight een patients with pulmonary lesions treated with this bovine tuberculin are making rapid progress, though the time is yet too short to report definitely On the other hand, he has been using with marvelous effect Koch's tuberculin in 104 cases of surgical, or bovine, tuberculosis He describes his method of treatment and reports or summarizes his results in phthisis pulmonalis, tuberculous glands, lupus, tuberculous joints, peritonitis meningitis abscesses and sinuses He advocates that the treatment be carried out by practitioners on patients at their own home With proper precautions, he says, there is no risk

3 Acute Poliomyelitis.—Pasteur, Foulerton and MacCormac report a case of non fatal acute poliomyelitis, in which they were able to identify in the spinal fluid withdrawn during life, a micrococcus which produced on injection into a series of rabbits, phenomena resembling the disease in the human subject The same micro organism was identified in the spinal fluid of the experimental animal, though they have been unable to obtain the micrococcus on culture in artificial media They consider Geirsvold's discovery of a specific infectious disease, of which acute poliomyelitis is a frequent and prominent, though not essential, feature, substantiated by their case which they think represents a sporadic instance of Geirsvold's epidemic disease There is not sufficient reason for assuming that acute poliomyelitis is always the result of this particular diplococcus infection The symptoms by which it is recognized in the human are the consequences of a constitutional alteration of certain cells of the central nervous system, which possibly may be caused by the toxins of other infected processes

9 Yersin's Serum in Plague—Dixon reports three cases treated (two successfully) with Yersin's serum, which seem to show that 1, Unless the patient has a rigor after the injections he has not had a large enough dose, 2, the doses advised are not nearly large enough for severe cases, and 3, there is no ill effect from large intravenous injections of Yersin's serum

British Medical Journal, London

February 15

11 *Chorea of Aggravated Type with Certain Unusual Phenomena. L. W. Philip
12 Chronic Bronchitis A. G. Auld.
13 Surgical Aspects of Subphrenic Abscess H. L. Barnard
14 Existence in India of an Acute Tuberculous Fever Which Has Been Confused with Continuous and Remittent Fevers J. L. Roberts and P. S. L. Bhandarkar
15 Spread and Prevention of Tuberculous Disease in Pondoland, South Africa J. G. Millar
16 *Prevention of Tuberculosis a Suggestion A. R. Gunn
17 *Treatment of Epidemic Cerebrospinal Fever by Intraspinal Injections of Flexner and Jobling's Antimeningitis Serum A. G. Robb
18 *Calmette's Ocular Reaction for Tuberculosis C. P. Weber
19 Phthisis Treated by Bovine Tuberculin A. Cuffe

11 Fatal Chorea—Philip reports a case of aggravated chorea, or chorea gravis, in a young man, aged 18 The clinical picture might be described as one of muscular insanity (*folie musculaire*) The motor contortions were universal and most disorderly The facial muscles gave most contradictory manifestations, from the broad grin of good nature to the ferocious look of uncontrolled anger Interest, pleasure, excitement, vexation, distress, resentment, hate, were all rapidly reproduced from moment to moment, more quickly than the lightning sketches of the music hall artist Every possible deviation of the eyeballs occurred, but the most remarkable symptom was one apparently not before noted in connection with chorea, namely, that of hippus—the alternate rapid dilatation and contraction of the pupils The case is unusual, in that such cases usually occur between five and fifteen years, and when occurring later are mostly in girls Moreover, no family history of either rheumatism or neuropathy was traceable Beyond an emotional condition there was no factor of significance in the personal history Philip discusses the diagnosis of chorea minor, major and gravis, and briefly describes the medieval St Vitus' dance He considers the causation, prognosis and treatment of chorea

16 Prevention of Tuberculosis—Gunn found a suggestion on a fact first pointed out by Archdall Reid, that in every population certain members are to be found who possess an inborn degree of immunity against tuberculosis Assuming the identity of bovine and human tuberculosis, it is to be expected that among cattle also there will be found certain immune individuals His proposal, in brief, is to breed from these immune individuals a strain which will remain absolutely free from the disease He endeavors to show the practicability of this

17 Serum Treatment of Cerebrospinal Meningitis—Robb gives his experience at Belfast with Flexner and Jobling's antimeningitis serum in the epidemic of cerebrospinal meningitis Prior to the end of August, 1907, 275 patients were admitted to the fever hospital, 199 of whom died, a case mortality of 72 per cent Every patient admitted since then has been treated with Flexner and Jobling's serum intraspinally, with the following results Thirty two cases with 22 recoveries, 8 deaths and 2 patients still under treatment, of which it is expected that at least one will recover The results are tabulated Robb describes the method of injection and the doses, and, while avoiding any premature expression from so small a number of cases, he nevertheless feels justified in putting them on record

18 Tuberculin Ocular Reaction—Weber refers to the control effects of the ocular tuberculin reaction when sought for in non tuberculous persons He suggests that it would be better to test the reaction on apparently healthy persons who have to irritate their eyes by sitting up late reading by artificial light In five healthy doctors who made this experiment on themselves, a positive result was obtained in each case, and in three it was very violent He thinks these results worth recording, however exceptional they may turn out to be, as he believes that there has been a tendency unduly to magnify the reaction as a diagnostic test of tuberculosis

Clinical Journal, London

February 12

20 *Colibacilluria H. B. Shaw
21 Case of Fatal Acute Illness in a Child from Status Lymphaticus S. Phillips
22 Ferments as Intestinal Antiseptics A. S. Gubb

20 Colibacilluria.—Shaw discusses this subject very exhaustively as regards its origin, the antagonism between harmless and pathogenic bacteria in the human economy the nomenclature and the biochemical and toxic characters of the colon bacillus in relation to colibacilluria He brings forward

an empirical art to be taught at the schools These schools are now producing the majority of practitioners in the Presidency and under changing conditions in India the College should aspire to a higher ideal than merely that of finding practitioners for a doctorless country No part of its time should be occupied with training for the inferior L.M.S., or apothecary grades, it should concentrate on the university ideal

4 To compare American methods of teaching in the various College departments with our own system would be a lengthy matter and require more expert and specialised knowledge than I possess Following the German system, the American Professor as the administrative head of his department arranges and co-ordinates the work of an enthusiastic band of teachers, who carry out the greater part of the routine instruction

Biological Chemistry is now an important subject in the medical curriculum Many English Schools have already dissociated it from physiology and appointed whole-time professors while many of the later advances on medical science have sprung from it

The teaching of pharmacology by a study of the effects of drugs on animals in a laboratory seems to be called for in a community where the traditions are mainly empiric. The extent to which proprietory medicines are used by our Madras trained practitioners has grown enormously and only a true scientific training and a critical appreciation of the value and limits of actual demonstration can protect the young doctor from the steady bombardment of the unscrupulous manufacturer and his persuasive propaganda. Mr Flexner with truth says that in this matter the laity have more to fear from a credulous doctor than from the advertisements themselves

There is much to be said for a plan of teaching which gives to the students a broader view of a subject like anatomy, even though the student does not obtain a deep knowledge of its details It is surely good that a doctor should have some knowledge though only an elementary one of subjects like anthropology and embryology, which will deepen his scientific outlook while much of the minute anatomy, which is now taught is unnecessary as a preliminary towards the study of medicine Some of our Anatomical teachers appear to think that a minute knowledge of the bones of the skull is as important to the study of medicine as the ancients considered the three humours

Excepting perhaps the Rockefeller Institute, research and education in America are very intimately connected The organisation of the Research Department of India as a separate department is a great loss to education

5 *Cost of education*—The average tuition fees paid by a student at an American Medical School amount to 250 dollars a year At John Hopkins the average cost to the college of a student's education amounts to 1,250 dollars a year of which the student pays 250

A comparison with the cost of medical education in Madras is very instructive and suggests that Madras cannot complain that money is being squandered on medical education —

Medical College	Number of students	Budget for 1920-21 Academical year	Total average cost per student.	Proportion paid by student.	Cost to Government or College authority
		Rs	Rs	Rs	Rs.
John Hopkins University	360		4,750	950	3,800
Medical College, Madras	579	3,63,730	628	120	508
Rayapuram Medical School	488	1,20,883	247	64	183
Tanjore Medical School	294	43,845	149	64	85
Vizagapatam Medical School	254	87,424	344	64	280

The figures for John Hopkins are the approximate estimate given me by the Dean and, converted at 100 dollars, are equal to Rs. 380

6 *Proportion of teachers*—The number of teachers in all the American Medical Schools in 1910 (and this includes second and third grade schools) compared with teachers at the Madras institutions is as follows —

Name of institution	Number of professors	Number of other instructors	Total teachers available	Number of students	Ratio
All American Colleges*	3,533	4,828	8,361	23,927	2·9
Medical College, Madras			35	579	16·5
Rayapuram Medical School			22	488	16 5
Tanjore Medical School			14	294	22 1
Vizagapatam Medical School			14	254	18 1

* See Flexner "Medical Education in the United States and Canada."

A too obvious criticism is that the number of teachers in America is extravagant. I cannot quote similar figures from English Colleges, the Calendar of St. Bartholomew's Hospital, London, shows the names of 75 teachers in the Medical School but this does not include the junior grades of demonstrators and tutors

The Surgery department at Harvard includes the following teaching appointments Professor of Surgery 1, Professors of Clinical Surgery 2, Professor (Clinical) of Genito-Urinary Surgery 1, and 41 Assistant teachers. John Hopkins employs 8 whole-time teachers and 15 part-time teachers, excluding Urology, Orthopædics and Laryngology, for which there are separate professors St Bartholomew's Hospital Calendar shows the names of 11 surgeons teaching the subject but this does not include the teaching of anæsthetics, the surgical specialities or all the clinical teachers, who are available.

At Madras there is one Professor of Surgery and 5 Assistants to the Professor, all of whom have many

11 Madras might with advantage copy American methods of publishing every year a scientific bulletin containing papers from all the institutions in the Presidency

12 The awarding of prizes for original work as is done in America rather than for examination skill encourages students to think for themselves'

There is no escaping the conclusion that what counts in medical education is quality and not quantity Few will claim that in India present day standards are high enough Unless the philanthropists of India come forward, as those of America have done, to help to solve the problem it is unlikely that funds will ever enable India to approach the standard detailed by Major Bradfield Yet there is perhaps no one single problem in India of more vital importance to-day than the future of medical education in his country The medical schools of India are overwhelmed with the numbers of applicants for admission Classes are overburdened and individual tuition goes to the wall Professors are driven by the expensiveness of living in the larger Indian cities, to devote much of their time to private practice, to some extent, perhaps at the cost of their professorial efficiency On the whole, whilst the necessity for the improvement of present day teaching of medical undergraduates in India is vital, the readiest way to improve the standard of medical education in India lies with the Schools of Tropical Medicine If these schools will but set determinedly before them the highest possible standards of medical education if official provision plus public and private generosity secure their future if the right men be but selected for their staffs then we have, in such post-graduate schools in India, centres where medical men can be taught in a manner approaching to the conditions in the larger American Schools and themselves becoming the teachers of the young generation in the Indian Medical Colleges

THE LATE SIR PATRICK MANSON THEN AND NOW

The death of Sir Patrick Manson,—"the father of tropical medicine",—on April the 9th, 1922, cannot but bring home to every medical man in the tropics the real and tremendous strides which have been made in the study of tropical diseases in a single generation A cynic, whom we have recently had occasion to consult professionally, is of opinion that most men leave the world its debtor rather than its creditor, but Sir Patrick Manson was one of those pioneers whose labours future generations will come ever more and more to realise and to value

The son of a Scottish landowner, and born in 1844, Manson graduated from Aberdeen in 1865, and in 1866 went out to Formosa as doctor to a group of merchants and missionaries His attention, in the midst of the busy round of a general practice in the tropics, was soon called to many and curious cases of unexplained disease A Chinese clerk, suffering from dropsy from head to foot and with a failing heart, consulted him Thinking the case was one of cardiac disease Manson prescribed cardiac stimulants The next day the patient was dead Some years later he came across cases of what was apparently locomotor ataxy in Chinese soldiers A few of them died suddenly some with œdematous symptoms of sudden onset The young tropical practitioner went to his English textbooks for help, but found in them no assistance He suspected trichinosis, but microscopic examination of the fatal cases failed to reveal infection Suddenly he realised that he was confronted with epidemic beri-beri a disease whose full etiology is not yet understood but whose importance in the tropics taught him that a medical education in the British Isles, however complete, is insufficient for the practice of medicine in the tropics

In Formosa he constantly encountered cases of elephantiasis a disease whose etiology was then but little understood In that day parasitology was an undreamt of science The connection of insects with disease had been a fruitful theme for speculation for centuries, indeed Susruta, in the 6th century before the Christian era, had had visions upon the subject But what an esoteric philosopher may see in an ambrosial vision, or a latter day critic in a cloud of tobacco smoke, requires something more than imagination for confirmation, it needs diligent, earnest and impartial investigation of facts, and the accumulation of experimental evidence

In 1790 Abilgaard had discovered that certain helminthic parasites of the perch pass part of their life cycle in water fowl, whilst Leuchart between 1858 and 1869 had established the fact that metaxeny,—or alternation of hosts,—affects human as well as animal

the pain was banished and has not recurred during the three months since In a case of intercostal neuralgia, with a suspicion of aneurism in a man of 57, and in one of obstinate coccygodynia in a woman of 40, remissions of the pain for several days were attained with the Schleich technic, using the chilled solution and making about seven blisters He has also had favorable experiences with the chilled injections in the girdle pains and gastric crises of tabes, but he says, "that is another story"

54 **Suction Treatment of Mastitis**—Zangemeister reports his experience with fifty patients with acute mastitis developing within two weeks after childbirth and treated by various measures In thirty three cases Bier suction glasses were applied The results were bad, the suction seeming to increase the tendency to suppuration and lengthen the course of the affection He, therefore warns most decidedly against suction technic in the first stage of puerperal mastitis On the other hand the effect was most excellent when the affection had progressed to the stage of abscess formation Very small incisions sufficed then to complete the cure under suction treatment

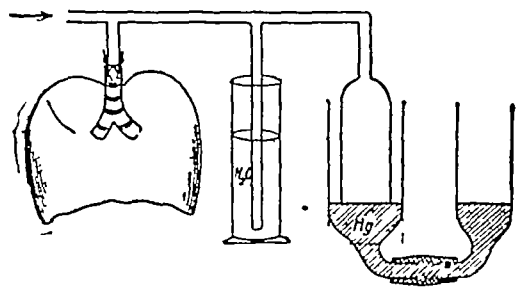
55 **Constriction Hyperemia in Treatment of Burns**—Ritter confirms the prompt relief of pain and the promotion of healing by application of Bier's constriction hyperemia in treatment of local burns It is extremely important however that the application of the constricting band must be brief Further experience is necessary before this technic can be recommended for general burns It may prove harmful Too long application even for a small burn, results in scars filled with blood to an excessive extent The constriction hyperemia relieves the pain in a local burn, as also in case of a frozen member and the most painful form of gangrene In case of freezing the measure enables the blood to be driven to the anemic frozen part and held there With a burn the part is not anemic and the indications are different

Münchener medizinische Wochenschrift.

February 4 LV No 5 pp 209 264

56 *Artificial Respiration by Mere Ventilation of the Trachea and Apparatus for Automatic Rhythmic Artificial Respiration (Vorrichtung zur rhytmischen künstlichen Atmung) F Volhard (Dortmund)
57 *Diagnostic Cutaneous Reaction After Rubbing with Tuberculin Salve F Moro
58 *Experiments with von Pirquet's Cutaneous Tuberculin Reaction in Adults F Junker
59 *Yeast in Treatment of Vaginal Inflammation (Hefetherapie bei der Kolpitis) F Kehrer
60 *Yawning (Das Gähnen) R Geigel
61 Action of Tropacocain Spinal Anesthesia on the Kidneys (Einwirkung der Tropakokain Lumbalanästhesie auf die Nieren) Hartleib
62 Antitoxin Treatment in Two Cases of Tetanus After Gynecologic Operations P Zacharias
63 Tetanus After Subcutaneous Injection of Gelatin Use of Gelatin in Case of Hemorrhage V Heddaeus
64 Primary Acute Osteomyelitis of the Ribs L. Fiedler
65 *To Aid in the Fight Against Tuberculosis (Zur Bekämpfung der Tuberkulose) F Jessen
66 *The Dumb Nurse Table for Instruments (Neuer Instrumententisch mit trapezförmiger Platte) Geissler (Neu Ruppin)
67 Orthopedics as a Specialty and Its Limitations O Vulpius

56 **Apparatus for Automatic Rhythmic Artificial Respiration by Ventilation of Trachea**—Volhard found that dogs under the influence of curare to such an extent that respiration was entirely suspended could be kept alive for an hour or so without any active or passive respiratory movements merely by passing a current of oxygen into the trachea allowing it to escape outside of the tube The tissues absorbed the oxygen with such avidity that the blood remained the normal bright red Notwithstanding this the animals all died by the end of the second hour as there was no means of getting rid of the accumulating carbon dioxid they succumbed to the effects of carbon dioxid poisoning of the vagus center He has devised an apparatus for automatic rhythmic flushing of the air passages with oxygen and has found it extremely effectual on animals and also in a clinical case in which the patient was kept alive for nine hours by this means after three hours of manual measures for artificial respiration normal respiration having stopped during the course of an attempt to remove what proved to be an inoperable brain tumor The apparatus worked so perfectly in this case for the nine hours before the patient succumbed to his brain trouble that this principle of automatic rhythmic ventilation of the lungs seems destined to prove of invaluable service in tiding patients past dangerous crises His apparatus consists of a T tube introduced into the trachea one arm connected with the oxygen tank and the other with a cylinder resting in a jar containing mercury up to a certain height this jar is connected by a wide rubber tube with a second similar mercury jar Between the trachea and first mercury jar a water manometer is interposed on the connecting tube The single or two way tube introduced into the trachea carries a small inflatable rubber bag to close the passage airtight Another arrangement has only one mercury jar, but the cylinder resting in this jar fits into a similar but larger cylinder reversed—two lamp chimneys answer the purpose admirably, one larger than the other The afferent tube has a stopcock or clamp to regulate the supply of oxygen The weak current of oxygen enters the trachea ventilates the air passages and passes out through the efferent tube into the cylinder When the resistance offered by the mercury in the jar is overcome by the pressure from the oxygen, a bubble of air escapes through the mercury This induces a comparative vacuum and the lung collapses The inflowing oxygen soon distends the lung again, and so the process goes on at rhythmic intervals A mere drizzling of oxygen on the trachea seems to be enough to supply the body with sufficient oxygen to keep the blood bright red and thus avert the gravest danger of immediate suffocation from lack of oxygen It enables time to be gained and avoids the necessity for the painful manual maneuvers for artificial respiration In one case in his experience years ago a patient with acute



poliomyelitis required incessant artificial respiration by rhythmic compression of the chest for fourteen days, night and day, and he has had patients with acute ascending spinal paralysis in which manual artificial respiration proved the only means of saving them from suffocation In such cases and also in apparent death from electric shock, opium poisoning etc he thinks that this simple and easily improvised apparatus will much facilitate the task of resuscitation

57 58 **Differential Cutaneous Reaction to Tuberculin Salve**—Moro says that the von Pirquet technic is not necessary to induce a differentiating reaction A specific reaction can be obtained by merely rubbing a tuberculin salve into the skin of the abdomen, just below the manubrium, for one minute or half a minute The salve is made of equal parts of old tuberculin and lanolin and keeps for months in a cold place In case of scrofula surgical tuberculosis or other forms of tuberculosis a nodular papulous efflorescence develops in a few hours or within two days on the anointed spot with or without itching It subsides in the course of a few days and, even after a severe reaction, no trace is left except a brownish pigmentation by the end of two weeks This test was applied in eighty nine cases and proved strictly specific In every case in which there was a positive reaction other tests also elicited a positive response The advantages of this "percutaneous" technic as he calls it, are obvious, chief among them being its absolute harmlessness Junker reports experiences with the von Pirquet and ocular technics applied in 180 cases With a single exception every patient with certain tuberculosis gave a positive and every patient manifestly free from tuberculosis a negative response He mentions that months afterward a subcutaneous injection of tuberculin caused a renewed reactive process in the conjunctiva and at the point of

Medical Association's volume "British Medicine in the War, 1914-17"

Of his work on schistosomiasis, on leprosy, on tropical sanitation and even on such minor subjects as milk supplies in the tropics space forbids us to dilate From the day of its foundation until his death he remained constantly and intensely interested in the London School of Tropical Medicine, indeed a fortnight before his death he was in its laboratories teaching and criticising

Perhaps the most valuable lesson of Sir Patrick Manson's life is its dogged persistence As a clinician he was always accurate and painstaking, sympathetic and kind to his patients, and with a charming personality to patients and students Yet with him clinical work and laboratory investigation went hand in hand Investigation and the determination to know the true causes and etiology of tropical diseases marked even his early career but even those qualities would not have succeeded so brilliantly had they not been supplemented by his brilliant and far seeing imagination and intuitive powers Above all, also, he preached the doctrine of the necessity to recognise facts and their inferences — "Never refuse to see what you do not want to see," he wrote 'or that which might go against your own cherished hypothesis or against the view of authorities These are just the clues to follow up, as is also and emphatically so the clue you have never seen or heard of before" We look back to the days of 1866 when all that the young practitioner in the tropics had to guide him was the systems of English medicine to-day we recognise how great has been the subsequent advance how important a branch of all medicine has tropical medicine now become Yet with the passing of so great a pioneer we also recognise how widespread and unlimited is the field for further advances

THE SIR WALTER BUCHANAN SCHOLARSHIP AT EPSOM COLLEGE

We desire to draw special attention to the notice which appears elsewhere in this issue of the Sir Walter Buchanan Scholarship at Epsom College for the sons of deceased or prematurely invalided officers of the I M S The whole service will unite in their deep appreciation of its founder's generosity and of so happy and so well conceived a scheme for perpetuating Sir Walter Buchanan's long and honoured connection with India and with the I M S Sir Walter Buchanan's record of service in India was one of entire devotion to the country's interests he was always a keen enthusiast on the I M S It is most eminently fitting that a scholarship for the sons of I M S officers should bear his name whilst it is particularly pleasant to be able to publish the notice of the scholarship in the Gazette which he edited for many years so brilliantly

Current Topics.

The Bombay School of Tropical Medicine.

The scheme for a Bombay School of Tropical Medicine seems—to adopt a colloquialism—to have "struck a rough patch" Speaking on the Budget for 1922-23 the Hon'ble Mr R P Parajjpe, Minister for Education, defined the present position as follows —

'As regards the head Medical, we have had to cut down the School of Tropical Medicine, in the case of which we had gone very far, in fact committed ourselves to a very great extent. We found that it would cost about Rs 5 lakhs or 6 lakhs to the provincial revenues, and we are in correspondence with the Government of India asking them to bear a considerable portion of the burden, if we are to take that liability at all The medical profession consider that the School of Tropical Medicine is a very important matter, and should be proceeded with, but we find that with our finances we are not able to afford it just at present. In some other cases, the pruning knife has been used, which perhaps people would not like The grants to hospitals and dispensaries have been cut down or at least they are not being raised We are asking local bodies to try and do with the grants that they had before. I have asked the Surgeon General to consider whether some of the sub-assistant surgeons are not superfluous, and whether they could not be done away with There are, of course, some suggestions which the Retrenchment Committee makes which it may not be possible for us to accept, because after all, they make the suggestions to a great extent from the outside, and it would not be always possible to carry them out but we are always very willing to consider all those suggestions in the most sympathetic manner, trying if possible to meet their desires, if we feel that the harm caused would not be too great"

On the 20th of February, 1922, Dr S S Bathiwala, M.L.C, moved a resolution in the Bombay Legislative Council 'that this Council recommends His Excellency the Governor in Council to make a representation to the Government of India on the advisability of opening a School of Research in Tropical Medicine in Bombay in view of the many advantages of having such a School near the gateway of India rather than at Delhi

It would be a thousand pities if the Bombay scheme fails to mature The Calcutta School of Tropical Medicine, although not yet fully staffed, has already yielded valuable and important results The continuance of Major Acton's enquiry into the use of the cinchona alkaloids in malaria, Major Chopra's investigation into the therapeutics of emetine, Dr Napier's discoveries of the widespread incidence of kala-azar in Bengal, and of a new serological test for this disease, Dr McVail's solution of a practical method of treating hookworm-infected

second article on a different aspect of the same subject he tabulates the information he has learned from various patients in regard to the source and circumstances of the opportunity for contagion in a total of 661 cases He discusses the physician's duty in regard to professional secrecy and notification of known sources of infection In Denmark and Norway the physician is required to declare cases of syphilis known to be a source of infection, but the law does not require this in Sweden He thinks that the Swedish law should be modified to require that the physician should declare the sources of infection when the manner of life or other conditions render contagion of others probable also that the physician should keep a record of each case of venereal disease with the details learned in regard to the source of infection, omitting the patient's name His investigation at Stockholm confirms anew the predominant part played in the dissemination of venereal diseases by abuse of alcohol street solicitation and so called hotels

Norsk Magazin for Lægevidenskaben, Christiania

February LXIX No 2 pp 97 180

116 Norwegian Artificial Mineral Waters (Kunstige norske mineralvande) E Poulsson and E. Wang

117 *The Biochemical Reaction in Diagnosis of Malignant Tumors (Biochemiske reaktioners diagnostike anvendelse paa de maligne svulster) S Widerøe

118 *Application of Biochemical Reaction in Diagnosis (En biochemisk reaktion i diagnostik gjemed.) M Paus.

119 Treatment and After treatment of Fractured Joints. (Frakturer i led) Büllow Hansen

117 118 **Biologic Blood Test for Diagnosis of Incipient Cancer**—Widerøe thinks that Kelling's theory in regard to the origin of cancer from embryonal cells of other species is scarcely probable, but Kelling's assertions in regard to the application of the hemolytic blood test for diagnosis of cancer have been brilliantly confirmed by Widerøe's experiences Kelling regards the application of this test as proving his embryonal cell theory Widerøe applied the test in 50 cases and exclusively with hen's blood, 25 of the patients had cancer and 25 suffered from other affections In 25 cancer patients the results of the test were positive in 64 per cent the degree of hemolysis averaging from 50 to 85 per cent In the 16 cases in which the hemolysis was over 30 per cent the cancer was in the digestive tract in 13 In the 9 cases with negative results in the cancer group 6 of the patients were cachectic, and Kelling has warned that the reaction diminishes with advancing debility Among the 25 patients with other affections, the hemolysis surpassed 30 per cent only in 3 cases, and in 2 of these the affection was a blood disease (splenic or pernicious anemia) which Kelling declares belongs in the same category with malignant tumors The third patient had pneumonia In the others the hemolysis was less than 8 per cent in 13 of the patients and less than 16 per cent in 6 others No appreciable hemolysis could be detected in the patients with syphilis and benign tumors Widerøe remarks that these findings confirm in every respect Kelling's assertions as to facts and they do not seem to conflict with his theory He discusses the chemical composition of the hemolytically active substance which these tests show is a constituent of the serum in case of malignant disease

Paus relates similar research in 90 cases including 30 healthy persons He centrifugates with Hamburger's hemolysis graduated glass and states that 2 c c of the patient's blood are ample for the purpose He obtained a positive reaction in 65 per cent of the cases in which the course of the affection or operation confirmed the diagnosis of cancer With the exception of uremic conditions his results harmonized with those of Kelling in every respect The latter has announced that the hemolytic action of the serum may remain constant in case of carcinoma or sarcoma to the patient's death but vanishes when the tumor is successfully removed He also states that if cancer substance is injected into an animal the serum of the animal acquires a hemolytic action to the same level as in the patient from whom the cancer substance was derived Metastases induce hemolysis the same as the primary tumor The hemolytic action is more pronounced the more vigorous the patient and occurs with less and less energy with increasing cachexia Paus research confirmed these assertions

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review as dictated by their merits or in the interests of our readers

TEXT BOOK OF PHYSIOLOGIC CHEMISTRY By Olof Hammarsten late Professor of Medical and Physiologic Chemistry in the University of Upsala Authorized Translation from the author's enlarged and revised sixth German edition by John A Mandel Sc.D Professor of Chemistry in the New York University and Bellevue Hospital Medical College Cloth Pp 845 Price $4 00 New York John Wiley & Sons 1908

THE THEORY AND PRACTICE OF ANTIRABIC IMMUNISATION By Captain W F Harvey M B I M S and Captain Anderson McKendrick M B I M S No 30 of the Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India Paper Pp 43 Price 1s 2d Calcutta Superintendent of Government Printing India 1907

PIROPLASMA CANIS AND ITS LIFE CYCLE IN THE TICK By Captain S R Christophers M B I M S No 29 of the Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India Paper Pp 83 Price 3s Calcutta Office of the Superintendent of Government Printing India 1907

TEXT BOOK OF OTOLOGY By Fr Bezold M D Professor of Otology at the University of Munich and Fr Siebenmann M D Professor of Otology at the University of Basle Translated by J Hollinger M.D Chicago Cloth Pp 315 Price, $3 50 Chicago L H Colegrove Co 1908

ANNUAL REPORT of the Surgeon General of the Public Health and Marine Hospital Service of the United States for the Fiscal Year 1907 Cloth Pp 146 Washington Government Printing Office 1908

THE ANIMAL MIND By Margaret Floy Washburn, Ph D Associate Professor of Philosophy in Vassar College Cloth Pp 333 Price $1 60 New York The Macmillan Co, 1908

MILK AND ITS RELATION TO THE PUBLIC HEALTH By various authors Hygienic Laboratory—Bulletin No 41 Paper Pp 758 Washington Government Printing Office 1908

REPORT of the Commissioner on Education for the Year Ending June 30 1906 Vol II Cloth Pp 1308 Washington Government Printing Office 1908

TRANSACTIONS of the Luzerne County (Pa) Medical Society for the Year Ending 1907 Vol XV Paper Pp 118 Wilkes-Barre E B Yordy Co., 1907

NEW PATENTS

Recent patents of interest to physicians

877401 Deodorizing compound. S M Buchanan Hubbard Ore
877309 Deodorizer receptacle R R Emerson Jackson Mich
877317 Auriphone D O Fosgate Chicago
877231 Crutch tip C P Rogers Jr Corry Pa
877248 Making stannic chlorid E A Sperry Brooklyn
877154 Electrical abdominal heater H D Wood Jr, Minneapolis
877155 Electrical face-steamer H D Wood Jr Minneapolis
877703 Sterilizing foods or organic compounds C C L G Budde Copenhagen Denmark
877660 Shoulder brace G T Foltz, Wytheville, Va
877660 Making vegetable extracts J Meikle Glasgow Scotland.
877618 Douche protector A A Van Orden Gallilee Ia
878045 Invalid or hoisting bed J J Collins Clemo Pa
878191 Rectal supporter H F Cunningham Los Angeles Cal
878190 Vein tube. W H Freeman Freehold N J
878379 Soda water fountain L G Green Philadelphia
877926 Vaginal syringe E. Hilker Chicago
878206 Vaporizer for medicaments F L. Loveless Corning N Y
878078 Vibratory massage apparatus G R Macomber New York
878223 Inhaler A. F Meisselbach Newark N J
878225 Pasteurizer J C Miller Canton Ohio
878083 Vibrator W N and F W Nicholls Toronto Canada
877946 Apparatus for containing and injecting serums and other substances. J L Overton London England
39054 Design Atomizer C W Meinecke Jersey City N J
879041 Massage apparatus. C. F Egan Petersburg Ill
878524 Surgeon's knife R K Gregory Greensboro N C
878577 Device for repairing fractured jaws. P Stukey Auburn Ind
878917 Endoscope or other optical instrument R H Wappler New York
878760 Apparatus for massaging the hearing organs A Zund Paris France
879360 Artificial hand. C. M Broady South Bend Ind
879516 Hot water bottle. T Cantwell St Louis
879442 Chair bed couch, stretcher etc H P Clemetson Ashford England
879740 Poison indicator G Cohen Jamestown N Y
879619 Bath pad J H Foote Chicago
879179 Specialist's chair W H Kersey Indianapolis
879777 Electromedical appliance S H Lackland St Louis
879778 Catamenial bandage W Lauffs Zurich Switzerland
879391 Fresh air treatment apparatus L P Leonard St. Cloud Minn
879297 Uterine curette F T M Moormeister La Grande Ore
879767 Truss H L Mortimer Sound Beach Conn
879299 Syringe W B Murphy New York
879191 Hair tonic F J Lieper Salt Lake City Utah
879326 Process of and apparatus for preparing effervescing baths L. Sarason Hirschgarten near Berlin Germany
879223 Cutting and stripping device for spool adhesive plasters. W J Walsh Boston
879224 Cystoscope R H Wappler New York.

recovery A fifth case was one of high fever with tympanites in a boy of nine. Delirium was present and the lungs showed a condition of patchy consolidation In addition to measures taken to deal with the fever and the broncho-pneumonia santonin was administered daily for three days The patient vomited one worm and passed 12 worms per rectum Delirium immediately ceased and the patient made a rapid convalescence.

Dr Menon rightly says that all the symptoms described in his series of five cases cannot be attributed to ascaris infection, but in three of the cases he noted picking at the nose as a symptom present, and emphasises the importance of not overlooking the fact that ascaris infection may *per se* lead to severe symptoms whilst, further, when present with other infections it may lead to symptoms of undue severity

A Snake Bite Poster

We have received from Assistant Surgeon T B Bhanagay L M and S Amraoti C P, a copy of a wall poster, 3 by 2 feet which he has prepared for use in dispensaries The poster is particularly well designed to meet the purposes for which it is intended The first half sets forth briefly but clearly in heavy type the methods of identification of a snake This is followed by diagrams of scale markings and the scales on the head of an Echis a pit viper and a cobra are illustrated Next comes a table for identification of the cobra Russell's viper Echis carinata and a particularly useful comparison of scale characters of the common krait with those of Lycodon aulicus—perhaps the snake most usually mistaken for a krait A clear and concise table of the local symptoms and general symptoms in cases of (*a*) colubrine bite and (*b*) viperine bite is given in half the lower part of the diagram and very clear instructions are given as to what to do in cases of bite from a poisonous snake with noteworthy points about methods of antivenene administration etc. The whole poster is exactly what is wanted to hang on the wall of a dispensary where it can be constantly studied and where it can be consulted at times of emergency The lines of treatment given are the best at present available and the author wisely refrains from mention of the useless Lauder-Brunton lancet.

Hygiene Publicity Campaign, United Provinces

The Government of the United Provinces has instituted a Hygiene Publicity Bureau and has commenced a Hygiene Publicity Campaign It has long been felt that steps must be taken to familiarise the general public with the knowledge of how to protect themselves against epidemic diseases and that no general advance in public health can be attained until people are educated in rural and municipal hygiene and are prepared to bear the expense of hygienic and anti-epidemic measures The Publicity scheme consists of popular lectures magic lantern demonstrations and the distribution of illustrated booklets and posters Small well written concise and well illustrated booklets on such subjects as cholera plague malaria, tuberculosis smallpox etc have been prepared in English Urdu and Hindi 25 sets of lantern slides have been prepared in connection with each subject and 25 sub-assistant surgeons in charge of travelling dispensaries have been trained in publicity work and posted to the more unhealthy districts As and when funds become available it is intended to provide materials for 100 lecturers and to produce further booklets and pamphlets dealing with relapsing fever ankylostomiasis water and food supplies village sanitation etc Also to provide travelling hygiene exhibitions establish hygiene museums, and to provide health visitors and midwives

The whole U P scheme is admirably thought out and well organised Only when there has been created an intelligent public opinion and a popular demand for improved hygiene will it be possible to obtain the funds necessary for real improvement of the conditions of rural hygiene in India

Sternum Puncture.

Dr K. K. Chatterji recently demonstrated at the Carmichael Hospital for Tropical Diseases a method of obtaining specimens of bone marrow for examination which he has been using for the last two years With a fine trocar and cannula the manubrium sterni is punctured near its upper margin the trocar being directed downwards and inwards towards the centre of the manubrium and entered a little to one side of the mesial plane and internal to the attachment of the sterno-mastoid When bone marrow has been reached the trocar is withdrawn and marrow fluid aspirated out by passing the needle of a fine hypodermic syringe down through the cannula Dr Chatterji has been using the method particularly in examining for S pallida in cases of syphilis with a doubtful Wassermann reaction, and in cases where the clinical evidence is at variance with the serological findings He suggests the use of the method in cases of suspected kala-azar where for any reason spleen or liver puncture is contra-indicated

Bilharziasis in India.

1 Clinical Notes on a case of Sporadic Non-Imported Bilharzia Hæmatobia Infection contracted at Bolarum Captain S Smith, R.A.M.C *R A M C Journal* April 1922, p 300

2 Bilharzia Hæmatobia in India. By A H Harkness, M.R.C.S. L.R.C.P. *B M J*, 25th March, 1922 p 475

These two papers will do anything but serve to settle the Indian bilharzia controversy Captain Sidney Smith's case was apparently a perfectly straightforward one The patient was a British soldier who had come straight to Secunderabad from England and had never been exposed to infection elsewhere He had been in the habit of taking lonely walks in the neighbourhood and particularly of bathing in two small tanks near Bolarum Fourteen months after coming to India the terminal spined ova of Bilharzia hæmatobium were found in his urine Under tartar emetic treatment, supplemented by mild purgation and oral administration of iodine to allay nausea and a tendency to vomiting the patient made a complete recovery The case almost certainly seems one of primary infection in India, and it is noted that bathing in these two tanks was followed by rashes on the abdomen and thighs The author quotes Kemp and Gravely (1919) who noted that over a hundred men returned convalescents from abroad, and suffering from schistosomiasis were living in the vicinity of Hyderabad, Deccan Yet a most thorough investigation of the snails in the locality failed to shew any known intermediate host In conclusion the author hopes to carry out a further investigation of possible secondary hosts in conjunction with Captain T O Thompson R.A.M.C.

Dr Harkness' case is less detailed with regard to the patient's previous history The patient was a male of 26 recently returned from India to London Two years previously whilst in India he had suffered from pain during micturition and itching of the meatus urinarius On returning to London in September 1921, these symptoms recurred and the ova of Schistosoma hæmatobium were found in the urine It is considered possible that the previous attack two years previously was probably of the same nature but no mention is made of whether the patient had visited other countries or had been possibly exposed to infection in Egypt or elsewhere. The author quotes Powell as having seen a case in Bombay in an Indian who had never been out of the country, and other cases which may possibly have contracted the infection in this country

Both cases raise suspicions and the result of the enquiry by Captain Sidney Smith and Captain T O Thompson into the fresh water snails of the two tanks concerned at Bolarum will be awaited with interest.

killed after 10 minutes' boiling Some samples of gelatin, accidentally containing tetanus spores, were not sterilized after three boilings, of 30 minutes each, on consecutive days Tuck does not state however, that the spore-bearing anaerobes other than tetanus were responsible for this resistance His concluding statement would lead us to think that they were, for to allay unnecessary alarm concerning the use of gelatin, he says " I am fully convinced that no spores of tetanus can resist boiling for over 20 minutes'

Falcioni[7] is the last observer dealing with the same theme He impregnated gelatin with spores of tetanus bacilli grown in agar or broth for 10 to 12 days, and used Koch's steam sterilizer The gelatin was exposed in 2, 5 and 10 per cent solutions He found the spores to resist destruction for 2½ but not for 3 hours, in streaming steam

The foregoing results are sufficiently varied and conflicting to suggest to us, on first thought, that races of tetanus bacilli exist, the spores of which vary widely in their resistance to moist heat at 100 C Before resting, however, on this inference it would be necessary to know the tendency to spore formation in different media and at different temperatures, the age of the culture at which spores are ripe, and, therefore, most resistant, the reaction of the medium in which the spores are boiled or steamed, because all of these variable factors have probably entered into the experiments quoted[8]

Before I had informed myself of the work done thus far I had made some experiments to determine the resistance to boiling of two cultures in my hands—one obtained from presumably sterilized bouillon (Culture 4),[9] the other brought by me, in 1896, from a large German institute (Culture 3)

The method employed to produce a rich crop of spores is one which I have used for many years and to which attention has been called in several short papers[10] To ordinary bouillon in suitably constructed fermentation tubes, is added a bit of kidney, or spleen or liver from a rabbit or guinea-pig, just killed with chloroform The piece of tissue is torn or pinched away from the organ with fine sterile forceps and varies from ½ to ¾ cm in bulk This is pushed well into the connecting tube where it remains The tubes need not be freshly prepared They respond by growth even after standing for weeks in the laboratory Sugar should not be added

Animals which are to yield the tissues should be perfectly well There should be no ulcers or other sores on them They should not have been inoculated with bacteria of any kind for at least a month previous They should be handled with great gentleness and not chloroformed in such a way as to cause them to struggle The reason for these precautions is that any lesion or previous inoculation of bacteria may lead to the distribution and prolonged latency of such bacteria in the body and these are brought to light by the large pieces of tissue used in the culture medium which is very sensitive to both aerobic and anaerobic bacteria The struggling of the animal and rough handling may lead to slight injuries through which bacteria may enter the circulation In spite of all these precautions fermentation tubes prepared in this way occasionally become clouded Hence, they should only be used after an incubation of three or four days Usually a slight clouding of the fluid in the open branch of the tube in which a bit of liver has been placed is due to a fine granular precipitate Such clouded fluid should, however, be examined carefully microscopically[11]

When tubes prepared in this way are inoculated with material containing spores or bacilli a rapid and abundant multiplication takes place The spore production is especially rich in and about the piece of tissue Fluid from such cultures was used to determine the resistance of the spores at the temperature of boiling water or streaming steam

TETANUS 3

EXPERIMENT 1.—Culture in a fermentation tube as above described, nine days old Five c.c. of turbid fluid placed in thick walled test tubes and the latter tightly stoppered with rubber stoppers, each perforated with a glass tube drawn out into a capillary, free extremity Tubes were completely immersed in boiling water, except the capillary vent through which the air and steam could freely enter and escape After the exposure for given periods of time, about 1 c.c. of the boiled fluid was added to fermentation tubes to determine the presence or absence of living spores The culture fluid exposed to boiling water for 10, 20 and 40 minutes contained living spores, as proved by the successful subcultures Fluid boiled 60 and 80 minutes failed to produce growth in subcultures.

EXPERIMENT 2.—Culture nine days old Tubes about 6 mm in diameter, drawn out and sealed at both ends in the flame, and containing about 1 c.c. culture fluid and an equal volume of air were exposed to streaming steam in the Arnold sterilizer for 20, 40, 50, 60 and 70 minutes The tubes were then opened and the entire contents of each allowed to flow into a fermentation tube All cultures, except the one receiving the contents of the 60 minute tube, developed and contained only tetanus bacilli

EXPERIMENT 3.—Culture in fermentation tube containing fermented bouillon plus tissue from a guinea pig In incubator sixteen days Total age, eighteen days Spore bearing bacilli very abundant, as usual Only a few free spores seen The arrangement for exposure of the culture fluid was the same as in Experiment 1, save that a large boiler, with a tight fitting cover was used The test tubes were completely immersed in the boiling water Tubes were exposed 60, 90 and 120 minutes To the last named enough gelatin was added to make a 5 per cent solution This was done to determine if gelatin increased the resistance of spores as suggested by Falcioni's[7] results All the subcultures, to each of which from 2 to 3 c.c. of the exposed culture had been added remained sterile

TETANUS 4

EXPERIMENT 4.—Culture six days old Portions exposed in test tubes to boiling water, as described under Experiment 1, for 10, 20 and 40 minutes All subcultures positive

EXPERIMENT 5.—Culture eight days old Tubes exposed as in preceding experiment at 60, 80 and 100 minutes Subcultures of fluids heated 80 and 100 minutes remained clear

7 Annali d'Igiene sperimentale 1904 N S xiv p 319

8 In the case of nutrient gelatin which has been a favorite medium I find sporulation very feeble and involution forms common It is quite probable that such cultures would resist boiling but feebly The use of dextrose in fairly large amounts such as 1 or 2 per cent has been frequent among bacteriologists although this amount is inimical to rapid spore formation

9 A pure culture was obtained from the mixed culture on blood agar in desiccating jars according to Bordet Quite unexpectedly pure cultures were also obtained with bits of liver from a white rat inoculated subcutaneously in the thigh with the impure culture As a rule and in harmony with the results of earlier observers rats inoculated with large bits of organs and with ¼ c.c. of hearts blood of rabbits and guinea pigs inoculated with tetanus bacilli remained well The colonies of tetanus bacilli spread very rapidly on blood agar plates and the hemolytic area produced by a single colony may reach one centimeter in diameter This tendency to spread made it difficult to obtain pure cultures from the colonies of the contaminating anaerobe whose colonies were very compact for the tetanus colonies invaded them though this invasion was not recognizable under low powers I succeeded more quickly in obtaining pure cultures of this latter organism by boiling the mixed culture for 80 minutes This destroyed the tetanus spores but not those of the associated species

10 Jour Exper Med Sc Med Sc 1899 p 310 Jour Med Research xiv p 103

11 This method of using tissues to stimulate the growth of anaerobes has recently been rediscovered by Tarozzi (Centrbl f Bakt Orig 1905 xxxiv p 619

cases of phthisis and the author has observed great relief in such cases from night sweats, and toxic symptoms Of 88 cases treated within the last 12 months and most carefully observed, 58 were cases of pulmonary tuberculosis, and 10 were cases of tubercular glands Of 58 cases treated in the last 12 months 26 were apparently cured 27 shewed great improvement 2 were not improved and 3 died Gland and bone infections respond at once to treatment and none of the gland cases suppurated genito-urinary cases shewed constant improvement with a human strain vaccine The three abdominal cases and the one case of lupus treated have apparently completely recovered 136 children exposed to tubercular infection were given prophylactic injections without reactions

The profession will rightly be sceptical with regard to any new tuberculin yet Dr Nathan Raw's wide experience of the disease the use of a vaccine of attenuated virulence, and the results obtained are encouraging

Concentration of Dysentery Bacilli.

At the laboratory meeting of the Royal Society of Tropical Medicine and Hygiene on November 17th, 1921 (*Transactions*, Vol XV No 3 p 144) Major H C Brown, I M S (retd), gave a demonstration of a method for the enrichment of dysentery bacilli in stools The method consists in the addition to the emulsion of stool of a small quantity of high titre homologous serum The mixture is then allowed to settle and MacConkey plates are inoculated with the deposit of sedimented bacilli With a mixture of B coli and dysentery bacilli an enrichment of 11 8 for the latter was obtained whilst with B paratyphosus b from a stool the enrichment plate shewed several hundred colonies but none on the saline suspension control The technique suggested is very simple, especially if a mixture of high titre sera be used and may be of use to laboratory workers The sedimented bacilli are very viable.

Foreign Bodies

At the February meeting 1922, of the Kathiawar Medical Society, Mr Chhelshankar G Buch described an obstinate case of sinus of the breast which having been treated elsewhere came afterwards into his hands He eventually discovered that a rubber drainage tube had stopped inside and been overlooked Removal of the tube resulted in rapid closure of the sinus A second member had heard of cases where even artery forceps had been left in the abdomen and confessed to having on one occasion left a swab in the axilla after an extensive operation for cancer of the breast A third member mentioned a case where a sponge was left in the cranium in a trephining operation for depressed fracture It was ultimately removed and the patient recovered We ourselves recollect a case in which an unanchored drainage tube disappeared into the cavity of a liver abscess These accidents will happen !

Drainage of the Lower Abdomen a Simple Method.

By GEORGE ROBERTSON F R C S

The Practitioner April, 1922, p 295

Mr. Robertson claims that efficient drainage of the peritoneal cavity from Douglas' pouch to a suprapubic wound is impossible to any great extent. It is moreover, a very undesirable process In cases where he has to deal with a large purulent or seropurulent effusion lying free in the peritoneal cavity he is accustomed to first expose the causative lesion , then to introduce a suprapubic drain , and only subsequently to deal with the causative lesion By this method less toxic material is absorbed, as much of the effusion escapes *via* the suprapubic tube during the course of operation

The small instrument which he uses for this purpose is a modified trocar and guide Having opened the abdomen and found a collection of pus or seropurulent effusion to be drained, he makes a tiny skin incision The trocar guide is then inserted and two fingers, carrying a muslin swab of small size, are placed against the suprapubic parietal peritoneum to feel the trocar The trocar having been pushed through the abdominal wall, the guide is now extracted by the fingers, *via* the main wound, whilst the cannula—a glass tube—is pushed on into Douglas pouch The tube may be removed at the end of the operation or one or more hours afterwards according to the courage of the operator

A Parasite resembling Plasmodium Falciparum in a Chimpanzee

By B BLACKLOCK and S ADLER.

Annals of Tropical Medicine and Parasitology, 31st March 1922, p 99

The authors carried out observations on a chimpanzee in Freetown Sierra Leone which had been suffering from dysentery from January 1st to 26th 1922 No protozoal cause was found The blood shewed no parasites Early in February the animal's condition became much worse and on February 4th parasites were found in the peripheral blood On the 9th the animal was critically ill and oral administration of quinine was resorted to On the 22nd the animal had apparently recovered, but on the 23rd, after making a good meal it vomited a large quantity of bile-stained material and died in half an hour The immediate cause of death was found to be Strongyloid larvæ which had caused innumerable small hæmorrhages over the whole surface of both lungs Plasmodium parasites were found in the brain in scanty numbers in the spleen which shewed masses of pigment in the bone marrow which was much pigmented and in the blood, where they were never very numerous but where deeply pigmented leucocytes were common The forms found in the blood were (1) large amœboid trophozoites resembling P vivax in enlarged and pale R B Cs (2) large, coarsely pigmented trophozoites more or less band shaped or equatorial and resembling P malariæ , (3) small ring trophozoites resembling those of P falciparum in unaltered R B Cs, (4) gametocytes, in scanty numbers, indistinguishable from those of P falciparum No schizonts were found in the blood The crescents were most numerous on the 12th and 13th of February

Laboratory bred A costalis (the great malarial mosquito of the West Coast) were fed on the animal on two successive nights and were subsequently dissected but no infection found in the gut or salivary glands Two Europeans were given subcutaneous and intravenous injections of the chimpanzee's blood The first who had never had malaria but had been taking prophylactic quinine, shewed nothing more than some nausea after injection and later transient urticaria round the site of subcutaneous inoculation The second volunteer was a patient formerly infected with P falciparum but free from all relapses for the past six months He showed no symptoms Examination of the blood of both volunteers gave negative results

The authors comment on Reichenow's suggestion that gorillas and chimpanzees may serve as reservoirs of human malarial infection At present however the evidence is all the other way The ape plasmodia seem to be strictly specific to their hosts and do not affect man On the other hand Mesnil and Roubaud succeeded in producing only a transient infection in the chimpanzee with P falciparum from man and experiments with A maculipennis failed completely The morphological forms described and figured by the authors seem to indicate a plasmodium—in all probability specific to the monkey genus concerned—with gametocytes resembling M T crescents but with trophozoite forms with some resemblances to P malariæ P vivax and P falciparum alike

ulate the germination of spores coming from without and lead to the occasionally reported sporadic cases following vaccination

In the preparation of antitoxic and bactericidal sera, there are so many safeguards thrown around them, from beginning to end that here also only gross negligence or some hitherto unforeseen occurrence could lead to the production of tetanus Yet several outbreaks of tetanus occurred some years ago—one in this country and one in Europe—as a result of the use of antitoxin [16]

The occurrence of tetanus after the subcutaneous injection of gelatin in uncontrollable hemorrhage caused consternation in medical and surgical circles some years ago The cases were reported in 1902 and 1903 I find no reports later than the latter year In 1903 Chauffard[17] was able to report to the French Academy of Medicine as many as 18 cases collected from medical literature Dieulafoy[18] adds five cases to this list I have made no attempt to bring together all the cases The 23 above referred to are already too many, and show how the widely diffused use of a new remedy may lead to many nearly simultaneous fatal accidents The explanation was very simple Commercial gelatin, on examination, was found to contain tetanus spores Thus Levy and Bruns[4] found eight out of thirteen samples of gelatin infected with them Krause[19] failed to find his samples infected Anderson reports one out of seven infected Tuck[6] found one out of six samples of French gelatin, one out of four samples of German gelatin and four out of five samples of English gelatin contaminated with tetanus The gelatin was usually sterilized at the apothecary's and the process was insufficient to destroy the spores In view of the fact that some of the spores in my cultures resisted boiling 40 to 70 minutes, the recommendations of the various writers who investigated the bacterial flora of commercial gelatin, or else had used gelatin in their practice are interesting

Margonimer and Hirsch[20] expose the gelatin in 2 per cent solutions to streaming steam for one hour Krause[19] recommends streaming steam for 30 minutes on five consecutive days Holtschmidt[21] boils the 2 per cent solution in a water bath for five or six hours Anderson[5] recommends boiling for at least 10 minutes, or else fractional sterilization on three successive days The temperature at which this is to take place is not given Falconi[7] calls attention to the uncertainties of discontinuous steaming because in his experiments the spores failed to germinate in 2, 5 and 10 per cent gelatin He recommends 30 minutes at 130 C, in the autoclave Levy and Bruns[4] recommend streaming steam for 40 minutes They call attention to the dangers of using large flasks in place of test tubes, for the former become heated rather slowly Finally the commission[22] appointed by the French Academy of Medicine recommend that the gelatin dissolved in 0 7 per cent sodium chlorid solution be exposed in bulk not exceeding 150 cc in an autoclave at 115 C for 30 minutes

There is sufficient variety in these recommendations to justify a more thorough investigation, even if the injection of gelatin in surgery should not prove to do all that has been ascribed to it

The possible association of tetanus with bacterial vaccines was demonstrated in the unfortunate outbreak at Mulkowal, India, in 1902 Only last year full abstracts of the reports of the investigating committees were published in English medical journals [23] These inform us that at the place mentioned 107 persons were inoculated with Haffkine's plague prophylactic Of these 19 were affected with symptoms of tetanus and died The prophylactic consisted of a suspension of plague bacilli from agar cultures in salt solution and sterilized by heat The 19 unfortunates were all inoculated with fluid from the same bottle They were the first to undergo the treatment The syringe was cleansed superficially after this bottle had been emptied and the rest were injected with the same syringe from other bottles of the same lot, but none contracted the disease A dramatic incident occurred when the prominent persons of the locality at first hesitated to undergo the simple operation Dr Elliott, the physician in charge, bared his arm and was prepared to inoculate himself first At this the people gave way and submitted to the injection Dr Elliott would have been among the victims

Exhaustive investigations were made by an Indian Commission and by the Lister Institute in London The records show certain irregularities which occurred during the administration of the vaccine, such as the dropping of forceps used to remove the cork upon the ground, etc Both commissions, however, are inclined to refer the accidents to the contents of the bottle rather than to extraneous infection during the operation It also seems to me that the evidence points in this direction I have been unable to read the full report and learn of any investigations as to the mode of sterilizing the culture fluid in the laboratory at Bombay, where the plague vaccine was prepared

My own experience, related above, opens up the possibility for the survival of tetanus spores in bouillon or agar, unless temperatures above 100 C are used It should also be borne in mind that tetanus spores are widely disseminated in India Goodrich[24] states that in Bombay alone there were 1,955 cases of tetanus in five years These do not include puerperal cases

Before leaving this phase of the subject there should be mentioned, for the sake of completeness, the epidemics of tetanus in our large cities, following wounds from blank cartridges on Independence Day The only experimental study of this subject which I have been able to find is by H G Wells[25] Dr Wells made an exhaustive bacteriologic study of 200 cartridges from five firms Though several other anaërobes were encountered in cultures from them the tetanus bacillus was not detected

The great resistance of tetanus spores concerns both the practicing physician and surgeon and the laboratory worker who is engaged in the preparation of biologic products for subcutaneous administration As regards the surgeon, I do not believe that the usual disinfection by boiling or steaming at 100 C, such as may be resorted to away from hospitals need be placed under suspicion or discarded, but whatever has come in contact with fecal matter or with material undergoing putrefaction should be autoclaved at 110 C to 115 C, unless the disinfecting action of the boiling water in which objects are immersed is increased by alkalis and other substances

16 The outbreak ascribed to this country occurred in St Louis in 1 - and was due to the presence of tetanus toxin in the diphtheria antitoxin It was proved by a commission that the horse yielding the serum was in the incubation stage of tetanus (Polton et al Trans Amer Physicians 1902 p 463)
17 Bull Acad Med Paris 1903 xlix p 549
18 Bull Acad Med Paris 1903 xlix p 630
19 Deutsch Med Wochschr., 1902 xxxix p 673
20 Therapeut Monatshefte 1902 p 234
21 Münch. med Wochschr., 190- xlix p 12.
22 Bull. Acad Med 190- l p 805
23 Jour Trop Med and Hyg., 1907 x p 33
24 Annals of Surgery 1897 xxvi p 710
25 Phila. Med Jour 1900 v p 1377

belt are dangerous to health was apparently arrived at some fifty years ago What statistics have led to the presumption that residence in the tropics is so dangerous that a very considerable extra premium must be paid it is difficult to ascertain The white population of the colonies, for instance, come out, as a rule as bachelors men who, on being carefully examined, are vetted as being in first rate health who are revaccinated against small-pox inoculated against enteric fevers and who, as a rule, occupy in the tropics better ventilated and better class dwellings than do the corresponding class at home If they get ill they are carefully attended to, sent for a change, or sent home on leave If the principal supposed causes of mortality be considered, malaria tends to incapacitate rather than kill, and its danger is far less than was the case many years ago Amœbic dysentery is to-day amenable to emetine, as also is amœbic hepatitis The resident in the tropics is probably less exposed to diseases of the lungs than is the resident at home. Men who come to the tropics young—as long as they get through the first three or five years—become well acclimatised and should be considered as just as good lives as those at home. It appears that the extra premia charged for tropical residents are based upon the opinions of actuaries at home rather than on those of medical men in the tropics Incidentally the vigorous, usually out of doors and athletic life led by Englishmen in the tropics is their best guarantee of health 'Something wants doctoring, and it is not the doctor, but—"

On the whole Sir James Cantlie makes out a strong case True the tropical resident is exposed to such infections as cholera plague and bacillary dysentery, which scarcely affect the home population but the mortality from such diseases among European residents is almost negligible In the discussion which followed the paper Sir William Leishman pointed out that true statistical evidence of value could probably be collected if the Insurance Companies would but take the trouble to look for it and Sir Leonard Rogers pointed out that, after he had published an analysis of 4 000 post mortems in Calcutta recording the causes of death and the organs involved, he never once got a reference to this record from any English company but one of the largest American companies reprinted the whole record for the use of their medical officers in America Sir James Cantlie's culminating evidence against the Insurance Companies is perhaps, the cases of invalids who are sent to warm climates on account of their health and are then charged an extra premium by the Companies for going there!

Tularæmia

Public Health Reports U S A, 1921-22, Vols 36 and 37, Edward Francis Surgeon, U S Public Health Service and G C Lake, Passed Assistant Surgeon

In a series of memoirs the authors bring to light a new disease of rodents which is transmitted to man by biting insects Tularæmia is a specific infectious disease due to the *Bacterium tularense* and has been especially seen in the summer months amongst workers in the fields and farm labourers in Utah. Following the bite of a biting-fly—frequently the horse-fly *Chrysops discalis*—which has itself become infected from jack rabbits there follow lymphadenitis (often going on to suppuration) and fever of a septic type lasting from three to six weeks and followed by a slow convalescence Jack rabbits and ground squirrels were found infected in the district concerned and the disease was experimentally carried from animal to animal by *Chrysops discalis* the flies being most virulent during the first five days after the infective feed Experimental infection was also carried by the rabbit louse, *Hæmodipsus ventricosus* and the nasal mucus of infected rabbits was also found to be infective. The bed bug *Cimex lectularius* proved experimentally capable of transmitting the infection when eaten, also through the fæces which remained infective even when desiccated, more rarely through bites Once the infection was experimentally established in white mice it could be spread among them by the mouse louse, *Polyplax serratus*, and by the blood-sucking mite, *Liponyssus isabellinus* whilst infected mouse urine was also found to be infective

The bacterium concerned can be grown from infected tissues on egg yolk media, and also on serum glucose agar glucose agar, and blood agar in sub-culture Of six laboratory workers concerned during two years in the experimental study of the disease all became infected in the laboratory One even suffered from a second attack 27 months after recovery from the first attack Positive serum reactions were obtained for agglutination and complement deviation tests to antigens composed of B tularense, and in some of the cases, at least, infection appears to have been contracted through abrasions on the hands The authors consider that tularæmia being a disease which is apt to render farm workers ill for two to three months during the busiest season of the year, and which may even prove fatal, is one which should receive more attention, and that serological tests should be carried out on suspected cases

To readers in India the main points of interest in this excellent series of papers will be first, the resemblances which tularæmia shews to plague , and secondly, the very thorough study of biting insects in connection with it. Working with experimental animals the potential insect transmitters of the disease were found to be *Chrysops discalis* the stable fly *Stomoxys calcitrans* the bed bug, *Cimex lectularius* the squirrel flea, *Ceratophyllus acutus* , the rabbit louse, *Hæmodipsus ventricosus* and the mouse louse, *Polyplax serratus* In connection with human cases only the first four can be held to be under suspicion A detailed account is given of methods of investigation of methods of feeding white mice on infected bed bugs—(a technique which will appeal to research workers on Indian kala-azar) and many useful points of detail which may prove of value to others working on similar diseases along similar lines

A Contribution to the Knowledge of the Bionomics of Sandflies

By Captain JAMES WATERSTON, R.A.M.C, (T)
Annals of Tropical Medicine and Parasitology,
March 31st, 1922, p 69

This paper will be welcomed by entomologists, whilst the practical measures detailed to deal with the sandfly plague will be of interest to medical officers The observations were made in Macedonia The principal sandfly season was found to be from June to September although specimens were caught as late as the third week in October The flies tend to congregate in the neighbourhood of their human hosts , thus hospital dug-outs which were unoccupied were free from them, whereas other dug-outs regularly used swarmed with them Earth cracks, especially those occurring in the exposed surface of soil when dug out to make a level floor for tentage, proved most effective day shelters for the flies Sandbags employed to raise the level of the side of the tents were also a fertile source of trouble. At first great difficulty was experienced in keeping flies alive. This was overcome by the use of an earthenware pot containing water, in which stood a tray lined with lizard fæces the whole being covered by sandfly-proof gauze To feed the flies, it was found necessary to insert the arm into a fly-proof sleeve, as flies refused to feed through the gauze net when inverted on the arm Only females were observed to bite a full feed taking from 4 to 4½ minutes, and the fly being readily disturbed The adult flies will pass through astonishingly small openings, using the proboscis as a lever and sometimes emerging with a proportion of scales and hairs missing They readily drink water

south to north, from west to east, and as a general rule from the territories where tetanus may be considered most prevalent to those in which it is less prevalent

Another agency in the distribution of tetanus spores over limited areas is the common housefly Anyone who has occupied himself with the study of tetanus and other putrefactive bacteria, knows how a solitary housefly in a large room is quickly attracted by the offensive odors, and how persistent in its attempts to reach the culture fluid this insect is Films spread on cover-glasses are quickly eaten by this pest, and in view of experiments made by Lord and others with tubercle bacilli I do not hesitate to assume that tetanus spores are not injured in their passage through the digestive tract of flies, and that the latter may carry this infection from house to house There can be no doubt that with the mosquito and the rat, the housefly has much to answer for in civilized communities

The theme on which I have discoursed at some length may seem to many a commonplace one and hardly worthy of notice To one who has had the responsibility of the preparation of diphtheria antitoxin during the past 12 years, the subject appears of great importance, for the preparation of such therapeutic agents requires all the circumspection, care and knowlege which can possibly be bestowed on it It is far easier to arouse the nervousness of the public than to allay it and though the accidents that have followed directly or indirectly the use of biologic products are infinitesimal as compared with those of our railroads yet the public is accustomed to the one and more or less indifferent to it, and very much disturbed by the other The cause of rational, progressive medicine is distinctly retarded by accidents which would hardly cause a ripple if they occurred in industrial life

My theme finally illustrates an occasionally observed fact in medicine Whenever practice outruns the laboratory, and more or less impatient applies the latter's results to the prevention and cure of disease, it frequently deals with half truths whose application may be harmful It is this sense of being surrounded by half truths which should stimulate us all not to rest content with them but to use our efforts unremittingly until they have been made whole

Original Articles

THE HOME TREATMENT OF PULMONARY TUBERCULOSIS

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INTRODUCTION

In acute diseases, reactions to treatment (hygienic, medicinal and other) are often more or less prompt and decisive In chronic diseases the reactions to treatment are, for the most part, slow and so indefinite as to cause a shadow of doubt as to the responsibility of the treatment for either the good or bad termination In acute diseases physicians generally recognize that the chances for recovery are greatly enhanced by perfect quiet So firmly do they believe this that every movement possible is saved the patient A nurse assists in the feeding, she bathes the patient in such a way as to worry him the least everyone is excluded from the sick room, with the exception of the nurse and one or two of the most intimate members of the family and in fact everything is done to ensure quiet for the patient

The prolonged course of chronic diseases, the hopelessness of the conditions, the resulting severe mental disturbances, the dread of the inevitible period of considerable duration when the victims are forced to take to their beds, have all been factors in causing physicians to recommend as active a life as could be tolerated without too much inconvenience Thus it has been with tuberculosis Most of the physicians, as well as the laity up till recently, have considered tuberculosis as an incurable disease, and have only attempted to make the progress of the disease as slow, and the remaining days as livable, as possible The treatment of tuberculosis in recent years has yielded such gratifying results that we can now say that, beyond question, tuberculosis is curable This idea has not yet become generally disseminated But we must change our opinions regarding the curability and the treatment of tuberculosis, and the sooner we do this the more lives we will save Someone has pertinently said that "We must care for the consumptive in the right place, in the right way, and at the right time, until he is cured, instead of, as now in the wrong place, at the wrong time, until he is dead"

The question of what to say when asked for advice by a consumptive is ever a puzzling one to most physicians Just what advice is given very often, is too well known to make it of any force if repeated here The writer sees so many patients who are doing the wrong thing, often on the advice of physicians, that he is prompted to write on the above topic

PHYSIOLOGY OF TUBERCULOSIS

The anatomy of the pathologic lesion of the disease is well known to all, but not so the physiology—and the physiology is of the extremest importance Tubercle bacilli produce poison When this goes into the system, by absorption from a lesion in the body or from a hypodermic injection, a definite physiologic reaction is induced This reaction is responsible for the symptoms of tuberculosis Wright, of London, and his assistants have found that exercise and massage of an infected area produce as definite changes in the blood as come from injections of tubercle poison, whereas this will not occur if the infected part is kept quiet For this reason an organ the seat of an infection should be placed at rest

In the light of Wright's discoveries the rest should be intercepted by sufficient work to cause an inoculation into the blood of a small amount of poison at not too frequent intervals The rationale of this will be seen in a later paragraph The corpuscles of the blood have the faculty of ingesting bacteria The serum of the blood often has the property of agglutinating bacteria and of precipitating the toxin of the bacteria These are some of the protective elements or immunity factors of the blood There are others of which we know, and there are doubtless still others of which we do not know It has been shown that these protective elements are profoundly influenced by bacterial toxins

When the toxin first goes into the blood there is a decrease in at least some of the protective elements The extent and duration of the decrease is slight or great depending on the amount of toxin introduced and the ability of the blood to counteract it This period of decrease called by Wright "the negative phase" endures usually from a few hours to a few days If during this

Evidence of Pancreatic Disorder in Rickets

By E. C. DODDS, M.R.C.S., L.R.C.P.

British Medical Journal 1st April, 1922, p. 511

Dr. Dodds draws attention to the possible connection between rickets and pancreatic deficiency. A "diastatic unit" being the number of c.c. of a 0·1 per cent. starch solution digested at a PH concentration of 6·1 by one c.c. of urine the normal number of diastatic units in urine varies from 6 to 30. The mean in 17 cases of rickets was 15·4 diastatic units. Control cases in children suffering from other diseases showed a much lower figure.

Normal dry fæces contain 25 per cent. of fat by weight as a maximum. In cases of acute rickets the fat content was found to be greatly increased to a mean of 75 per cent. A control series of children of the same age, and on the same diet but not suffering from rickets gave a figure of 20 per cent. If the ammonia to nitrogen ratio of the urine be taken, rickets cases gave a mean of 14.3 per cent. as against a mean of 6·2 per cent. in health.

The author concludes (1) that the diastatic power of the urine is greatly increased in rickets, (2) that the diastatic power however falls to normal in convalescence. (3) that the fat content of the fæces is greatly increased in rickets, which indicates that there may be a poor production of fatty acids and consequently a poor absorption of calcium. (4) that attention should be paid to acidosis in rickets. (5) that these observations suggest the possibility of a pancreatic lesion in rickets, and (6) that in view of this suggestion cases of rickets should be treated with pancreatic extract containing lipase.

Operations on Tonsils and Adenoids.

British Medical Journal, 1st April, 1922.

The former tendency to regard tonsillectomy and the removal of adenoids as a trivial operation devoid of danger, is fortunately changing. The dangers of such operations in cases of *status lymphaticus*, the dangers of post-operative hæmorrhage and of post-operative sepsis render these operations far from trivial. Under these circumstances the Council of the Laryngological Section of the Royal Society of Medicine have drafted a set of rules for these operations, the observance of which will commend themselves to any careful surgeon.

"In view of the great number of children requiring operations for the removal of tonsils and adenoids, and of the varying standard of the provision made by hospital and local education authorities for such operations the Council of the Laryngological Section of the Royal Society of Medicine after careful consideration, desire to make the following suggestions.

1. That all clinics, whether at hospitals or schools, should be in the charge of surgeons with special experience of diseases of the nose, throat and ear, so that, *inter alia* a wise selection may be made of cases requiring operation and others not requiring operation may be appropriately treated.

2. That all patients requiring operations for tonsils and adenoids should have in patient institutional treatment and that a stay of at least forty-eight hours should be insisted on and a further stay if thought advisable by the medical officer in charge.

3. That parents should be given printed instructions as regards the preparation of the patient for operation and of the room to which the patient will return.

4. That before the patient is admitted for operation inquiries should be made by a responsible authority as to the home conditions and circumstances, especially with reference to the presence of infectious disease.

5. That when the patient leaves the hospital printed instructions with regard to after-treatment should be given.

6. That anæsthetics should be given by anæsthetists with special experience of these operations.

7. That after the patient leaves the hospital with the printed instructions for after-treatment, arrangements should be made for the supervision by a qualified visiting nurse.

The Council were of the opinion that where it is impossible in large cities to provide hospital accommodation for all the cases the provision of open-air buildings near the city, adequately equipped for operative treatment, would offer many advantages. These would be specially useful in connection with school clinics.

Until such provision of adequately equipped in-patient clinics can be arranged, and where it is not possible to keep every child in hospital for forty-eight hours after operation, and the child is operated on in an out-patient department, the Council recommend that several further conditions should be fulfilled.

1. That printed instructions should be given to the patient with regard to preliminary preparation, and investigation should be made beforehand—for example, by a "care committee' or a visiting nurse— as to the adequacy of the home accommodation and supervision, and also the absence of adverse sanitary conditions, risks of contagion, etc.

2. That proper waiting-room accommodation should be provided for patients before operation.

3. That the recovery room should be scrupulously clean, warm and well ventilated and provided with separate beds or couches for each patient.

4. That patients should be detained in the recovery room until pronounced fit to leave by the surgeon in charge or his deputy.

5. That the recommendation that the child should be visited by a nurse after discharge from the hospital should be insisted on with even greater force in the case of children who are denied the safeguards of in-patient accommodation.

6. That every child who is sent home on the day of operation should be transferred by an ambulance or hired conveyance. Travelling by public tram, bus, or train so shortly after operation is most undesirable, and a source of distress and often of infection.

A Simple Culture Medium for Leptospira and Protozoa

Transactions of the Royal Society of Tropical Medicine and Hygiene, Vol. XV, *Nos. 5 and 6, 1921*, page 153.

Laboratory workers will welcome the introduction by Dr. C. M. Wenyon of a simple medium for the cultivation of spirochætes and intestinal flagellate protozoa at the laboratory meeting of the above Society on Nov. 17th, 1921. The technique of preparation is as follows —

To 270 c. cm. of 0·85 per cent. sodium chloride solution (Ph 7·6) are added 30 c.cm. of ordinary 2 per cent. bacteriological nutrient agar (Ph 7·6). When mixture has taken place 10 c.cm. are placed in each test tube. After autoclaving at 120 degrees C. the tubes are cooled to 50 degrees C. and into each tube are allowed to drop, from a rabbit's ear, 20 drops of blood. The tubes are not shaken nor mixed, and are incubated for twenty-four hours at 37 degrees C. The medium is then ready for use. The blood is obtained from a rabbit by the paraffin method. The animal is enclosed in a box at one end of which is a round opening fitting the neck through which the head projects. The ear is shaved over the marginal vein. The skin is sterilised with alcoholic iodine solution, and when dry is coated above, below and on the margin with hot melted paraffin, so that the area of operation is covered by a thin layer through which the vein is still visible. With a small sharp knife an incision is made in the marginal vein and the sterile blood allowed to drop from the paraffined margin of the ear into the tubes. After incubation of the blood agar tubes it will often be found that the blood has coagulated in a cylindrical column, leaving a clear agar medium around it.

sible Sometimes, the writer, when explaining the conditions to a particularly intelligent patient goes so far as to explain the influence of the toxin on the blood—detailing the influence of both the negative and the positive phases It seems advisable to do this

MENTAL ATTITUDE OF THE PATIENT

The mental attitude of the patient is of the greatest importance If the patient is contrary, and unwilling to believe in the seriousness of his condition, or in the good to be acquired by the rest cure, if he conjures a spirit of antagonism and of unresignedness, or if he is of a nervous, fidgety, absent-minded disposition, it will be difficult, or perhaps impossible, for him to make much progress The writer has repeatedly noticed that those patients who comprehend the advice given them, and who have dispositions that will allow them to do what they have been told to do, are the surest to make the most rapid recovery Most tuberculous patients have a high or low grade of neurasthenia, and the resulting symptoms are constantly in need of treatment

THE NURSE

A careful, conscientious, intelligent nurse is an absolute necessity The nurse must, at all times, have complete charge of the patient She must see that the directions of the physician are carried out It makes little difference how often some patients are told not to do a certain thing, nor how important they are told it is they are liable to disobey as soon as the adviser is out of sight The nurse must have intimate control of the patient, or he will take a bath or have too animated a conversation, or engage in a general laughing bout with others, or he will do something he should not do, unless the restraining influences of some one is felt

To cite a little incident that occurred in the sanatorium One evening, while the nurse was preparing the between-meal lunch, four of the lady patients, whose temperatures had been normal for a while, got into the room of one of the patients, and put on their coats, hats and veils as if they were going out They surprised the nurse, as they had planned The result provoked a great deal of laughter The next day two or three of them had fever Had it not been for the nurse's short absence this would not have happened In another instance, a patient's fever jumped from 100 to 103 degrees She had unadvisedly been given a bath the day before A week or two later her temperature remained at normal for a couple of days She wished her room fumigated and she walked to another room The next day her fever jumped to 100 The writer could cite a large number of incidents which prove conclusively to him that the fever cough and other signs of toxemia may result indirectly from undue exertion The nurse is the disciplinarian and must control the patients even unto their slightest exertion The nurse must keep careful records of the temperatures, of the appetite, of any medicine administered of the amount of the cough and of the conditions in general All of these will be improved as a rule by the proper regime and it is very gratifying and encouraging to the patient to see evidence that he is improving

ANALYSIS OF THE PHYSIOLOGIC INFLUENCE OF CLIMATE

There are differences in climates There may be atmospheric impurities a small or large amount of humidity winds too little or too much of sunshine a rarefied and condensed condition of the atmosphere high or low temperatures changeable or equable temperatures An analysis of the physiologic influence of the above factors shows some interesting points Impurities such as often exist in the atmosphere of certain parts of large cities—coal-smoke, dust of various kinds, obnoxious gases, etc—are irritating to the respiratory tract, and a consumptive should not live where he is subjected to them The humidity is of less importance In a climate where the humidity is relatively high, evaporation of the perspiration of the body takes place very slowly, and the clothes become moist Moist clothes are much better conductors of heat and cold than dry clothes, hence, in the summer, the heat is more oppressive, and in the winter the cold is more severe, in a climate where the humidity is high—the temperature being the same—as in another climate where the humidity is low But clothing and artificial devices can compensate to a greater or less degree for the influences of humidity

The worst days for consumptives are the hot, humid, oppressive days of summer These cause deep, rapid, labored respiration This may bring about, indeed, is likely to bring about, an exaggeration of the symptoms Winds aid in a change of the atmosphere, and hence may disperse impurities and facilitate evaporation This is advantageous Heavy winds are disagreeable, but can easily be avoided

A sunshiny day is much more cheering and less dismal than a cloudy one, and hence it is more conducive toward one's being out of doors, but the sunshine also makes the day warmer The cheering days are much to be desired, but excessively warm days are detrimental as the heat causes more rapid respiration The higher the altitude the rarer the atmosphere, the rarer the atmosphere the more rapid and the deeper must one breathe in order to get the required amount of oxygen Rapid and deep breathing, as before stated, are distinctly contraindicated in any case of pulmonary tuberculosis, where there is any tendency toward the development of toxemia The sea level, or a few hundred feet above it, is preferable to a higher altitude

Temperature is an important factor in the handling of tuberculous patients Where it is too warm, the breathing will be too deep and rapid, and where it is too cold, discomfort results The latter, however, is much less dangerous than the former Sudden changes of temperature are liable to be more or less harmful, unless great care is exercised to prevent sudden cooling of the body

As no climate is likely to possess all of the desirable features and none of the harmful ones, and since, as a rule, the climate of any place within a thousand feet of the sea level possesses both good and bad elements, and since any of the untoward factors of climate, except excessive temperatures and rarefied atmosphere can readily be compensated for, there is usually, not a great deal to be said for or against any certain climate in regard to its peculiar fitness for the cure of tuberculosis

It seems best to repeat that hot climates and high altitudes should be avoided by most consumptives Sometimes, sending a man to another climate will get him away from his business and force him to rest It is the rest and not the climate that does the good The indiscriminate changing from one climate to another is absolutely wrong To deprive a sick man of his home and loving friends without giving him anything to take their places, is wrong Placing a patient in a sanatorium robs him of his family and home, but these are compensated for by the care he receives

so that by mixing the human serum under test with the horse heart extract, termed perethynol, then adding pig's serum and finally the erythrocytes of the sheep, the degree of hæmolysis which occurs is a measure of the precipitation in the first stage This is estimated colorimetrically and charted He considers the tints thus obtained to be a measure of the infection and the method he terms syphilimetry He employs nine tints numbers 0 to 8 Tint 8 corresponds to complete hæmolysis and denotes minimal flocculation in the first stage, *i e*, a normal serum, while tint 0 indicates complete absence of hæmolysis, *i e*, maximal flocculation This is produced by a strongly syphilitic serum A very large number of observations have been made, and the serological results together with the clinical picture and the treament adopted are shewn in graphic form These charts are an important feature of the work He clearly carries out an intensive treatment, and as his criterion of cure he puts forward his "law of the three 8" which means that before a patient can be passed as cured he must have a tint of 8 in the blood serum for a period of 8 months after the last arsenical injection , and a tint of 8 in the cerebrospinal fluid at the expiration of this period His serum test would appear to be on the lines of the Wasserman test The extract of horse's heart is practically an "antigen," and the inhibition of hæmolysis in the presence of a syphilitic serum suggests this relationship

There are many points of interest in the work, notably his insistence on the importance of the *rhythm* of treatment apart altogether from the dosage employed, his valuable hints on the avoidance of untoward results, and his clear graphic records, while his lucid style will give pleasure to the reader

Whatever may be the final verdict upon Dr Vernes' serum test, there can be no question of the great interest of his work, and we can confidently recommend this book to all who are interested in the scientific treatment of syphilis

R B Lloyd

The Chemical Examination of Water, Sewage, Foods and other Substances —By Purvis and Hodgson Second Edition, 1922 Cambridge Public Health Series Cambridge University Press Price 20*s* net

The University of Cambridge has for long taken a foremost place in the teaching of Sanitary Science in Britain and its D P H has justly enjoyed a high reputation The present volume is one of a series dealing with the various subjects connected with Public Health which is intended to reach a wider circle than students studying for the Diploma in Public Health We may say at once that the book achieves its object It is a simple but thoroughly scientific presentment of Public Health Chemistry The methods of analysis are shortly and accurately described The bibliography and references to original publications will be of great help to the student and the analyst The chapter on the difficult question of the interpretation of water analysis is full and illustrated by typical actual analysis The analysis of sewage and sewage effluent is fully described and discussed and the important observations in which one of the authors took a chief part, on the inter-actions of sewage and sea water receive the attention which they merit Regarding this portion of the book we note that Henner's method for the determination of hardness is not mentioned , in the description of the zinc copper method of nitrate estimation, it is not mentioned that the free and saline ammonia figure must be deducted from the total, whilst we would have welcomed some detailed description of the comparative chemical changes in septic tanks and purifying beds and filters The valuable work of Fowler and Clemesha in this connection in India does not seem to have been sufficiently appreciated Nor is there any mention of activated sludge or the important chemical advantages which its promotors claim for this process The remainder of the book is devoted to food and gas analysis ; the processes are clearly and accurately described and the latest methods of proved utility have been included or referred to This portion of the book will be of much use to the practising analyst A brief description of Gerber's method for fat estimation in milk might have been included, considering that it is the method almost universally used by professional dairymen In the description of the Reichert-Wollny determination most analysts will agree that a blank determination for the reagents is necessary The old gunpowder definition of proof spirit on page 228 is not the one now adopted and will not help the student to get over his difficulties as to degrees under and over proof The book is singularly free from misprints and numerical errors,—the one on page 234 is the only one we discovered The real criticism of the book from the students' point of view is the absence of explanation of the rationale of the chemical reactions On the whole we thoroughly recommend the book both to D P H students and to practising analysts

A Stewart

Tumours Innocent and Malignant —By Sir John Bland-Sutton, ll.d, f r c s Publishers Cassels & Co , Ltd , 1922 Price 30*s* net

The seventh edition of this valuable work on tumour pathology maintains its high tradition, and is one of the very few medical books that will attain in medical literature the rank of a classic

Every statement in it is founded on vast clinical experience and careful observations on the morbid and comparative anatomy of

should be repaired as quickly as possible A return to rest is indicated whenever there are signs of a backset The first few weeks after the fever is gone are the most trying to the patient, because he invariably feels fine and scarcely can refrain from doing something Those who can not control themselves are usually the ones who get the backsets and have a hard time to make a recovery

Later in the period of convalescing outdoor exercise can be given a patient This should be in measured doses Walking a certain distance, in a given time, is, perhaps, one of the most satisfactory exercises This can be increased or decreased as judged best by the physician in charge of the patient The decision as to the amount of exercise to be allowed a patient should be left to the physician, as it is too important a question to leave to the patient or even to the nurse By gradually increasing the work, the patient will eventually do a days work, one day after another, without harm Careful living should be practiced, however, after this

SUMMARY

In conclusion, it should be said, that in the treatment of tuberculosis a proper regulation of rest and exercise is the most important point Absolute rest must be enforced during and for some time after the existence of toxemia The exercise must begin after nearly normal weight is gained, and very gradually, so as not to produce toxemia It is best that the exercise be begun so that there is an interval of a week or more between two exercise periods

The second important factor is good air Fresh country air, or a climate which is not too warm and at an altitude of not more than 1 000 to 1,500 feet is desirable Air should be circulating through the patient s room all the time It is of some benefit, perhaps, in some instances, for the patient to live out of doors This is of little importance however, when compared with the significance of the rest and exercise

The third important factor is good food The patient should have three good meals a day and between each two meals a lunch of eggs and milk Forced feeding is not necessary but good feeding is essential

It should also be repeated that consumptives are curable and that it is being demonstrated every day (The tuberculous patient must however, be treated as though he were really sick—just as sick as if he had some acute disease, as scarlet fever typhoid or pneumonia)

In tuberculosis where there are signs of progress of the disease, it is of far more importance to keep the patient quiet than to force him to eat unusually large quantities of food or keep him out of doors all the time or give him large quantities of cod-liver oil, creosote or other drugs

THE MANAGEMENT OF THE SEXUAL FACTOR IN TUBERCULOSIS,

AND ITS RELATION TO THE HOME TREATMENT

W H PETERS M D
Secretary of the Board of Trustees of the Rhode Island State Sanatorium Admitting Physician and Director of Pine Ridge Camp for Consumptives
PROVIDENCE, R I

The problem how to regulate sexual intercourse is one of the most difficult in phthisis therapy and it is correspondingly important I purpose to consider first the general factors which obtain then the means by which we may deal with them in sanatoria and finally, how we can manage this very delicate matter in the home treatment of the consumptive which in my opinion, is a serious drawback to that method

Some physicians think it is erroneous to hold that consumptives are more prone to sexual excitement than healthy individuals, that we are impressed in rather a disproportionate way because the erethism which some consumptives admit is surprising and grotesque, when this disease is, in itself, so enervating and so exhausting At the other extreme are those physicians who consider the phenomenon a very prevalent one The latter view is apt to be held by those of our colleagues who do a great deal of dispensary work among the poor in large cities, and among the victims of alcoholism and prostitution, which factors are so often either predisposing to or co-existing with consumption Between these two extremes of opinion, however, are ample data to show that the tendency to abnormal sexual excitement is so frequent among consumptives as to require the careful attention of the physician

What are the reasons for such abnormal erethism in consumptives? There is first, the lack of occupation, which is either enforced by the physician as one of the fundamental principles of phthisis therapy, or which has naturally come about through the patient's weakness and hesitancy of employers to engage a sick man Enforced idleness follows, and this oftentimes leads to unwholesome introspection Then the temperature in consumption, no doubt excites erethism The toxins generated by the tubercle bacillus and in the mixed infections have a similar influence Then there is the forced feeding essential to the cure, the eating of raw eggs and rich red meats, also the stimulating life in the open air and sunshine, and the tonics—such as strychnin—which we find adjuvant to the cure Besides some consumptives feel that their disease dooms them to an early death and "Drink and be merry, for tomorrow you die," becomes their life philosophy

This attitude of the consumptives is not to be observed so much nowadays since we are proving by many thousands of examples that the malady is not necessarily fatal It is said that this abnormal excitability is greater among women than among men If such be the case, it must be because the home life and the lack of employment are more accentuated among women On the other hand we can easily understand how erethism is more common among male adolescents for it is at that period that a new an unaccustomed and a most exhausting appetite manifests itself, with all the force of a great revelation I believe that the advent of the sexual appetite with adolescence is a large factor in the appalling tuberculosis death rate which begins with adolescence and which has been destroying every third or fourth adult life The preponderance of tuberculosis in girls on the other hand, is from the second to the twentieth year (Cornet)

Every physician has been impressed by the almost disgusting and sometimes revolting persistence of the sexual instinct in consumptives even late in the disease I have repeatedly, in my sanatorium experience, taken the temperatures when married couples were left to themselves during visits There has been an invariable increase of from one to three degrees Especially was such a rise in temperature marked in women who have been running a normal temperature after the husband's visit One of my patients a man of 35 with advanced pulmonary tuberculosis had intercourse on each of five consecutive nights the last exertion resulting in a hemorrhage from which he died My colleague, Dr H L

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BRITISH MEDICAL JOURNAL.

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road company was sued for damages, the patient alleging the great nervous shock as the direct cause of the trouble

Although the older clinicians realized that trauma and pneumonia were frequently associated, they did not understand the exact etiologic factor existing between the two It is a well known fact that whatever lowers vitality predisposes to pneumonia It may be alcoholism, which is the most frequent predisposing factor in adults, great fatigue, hardship previous illness, exposure to cold or to dampness, or trauma Sturges says "In some cases the disease is not caused by the injury, but is brought to light by its agency, in others it is the indirect consequence due not to any immediate harm done the lung, but to nervous shock which, whether it arises from injury or any other cause produces a condition which is favorable to the development of pneumonia" To-day trauma is considered no more than a predisposing cause of pneumonia The micro-organism is the exciting cause, without which the disease will not develop

The affection is characterized by the usual signs of pneumonia When foreign bodies have been aspirated there is generally a definite history of sudden onset, and usually there is an initial attack of coughing when the foreign body enters Frequently there is hemorrhage or bloody sputum brought forth by the cough, which is more or less constant There may be localized pain Prostration is frequently marked in these cases It has been said that if a bronchus be blocked up completely there is a clear percussion sound over the part of the lung with which it is connected, while the respiratory murmur is abolished The latter is only weakened if the bronchus be not closed completely A clear history will aid greatly in the diagnosis

The prognosis is grave, indeed, when one of the most serious of all diseases is superimposed on a severe traumatism The mortality of all cases of foreign bodies in the lungs or in the bronchi, when treated by the expectant plan, has been estimated variously at from 56 to 80 per cent When tracheotomy is performed the death rate is lowered to about 30 per cent, since a much better opportunity is afforded for the spontaneous expulsion of the foreign body For obvious reasons these figures are not accurate Some of the fatal cases are not reported, while others, presumably cured, die later of such complications as empyema, atelectasis or lung abscess Since Kilian reported his method of examination by inserting long tubes in the bronchi and thus locating and removing the foreign body, only an occasional case should be lost

The treatment of this condition naturally falls into two subdivisions the treatment of the pneumonia and the treatment of the trauma It is not necessary here to say anything about the former If it is suspected that a foreign body has been aspirated, it is wise to locate and remove it, if possible This may be accomplished by means of the *x*-ray and a surgical operation, or by means of the bronchoscope and the alligator forceps The latter method is to be preferred if the result can be accomplished by its use If the expectant plan of treatment is followed the mortality as above stated is high whereas by Kilian's method of locating and removing the foreign body the death-rate should be very low

The case which it is my privilege to report by the kindness of Dr D J Milton Miller was admitted to the Children's Hospital Nov 15 1907, with the following history

Carrie G aged 6 years of Austrian parentage but born in America Uneventful previous history Three weeks previously, while holding a carpet tack in her mouth, it suddenly disappeared. She was immediately seized with a violent coughing attack, and she told her mother that she had swallowed the tack The family physician was called, but gave the child no relief, and attached little significance to the history of the tack The child passed a restless night, and the coughing paroxysms were frequent The next morning another physician was called, and he likewise thought little of the tack, but continued to treat the child at her home for three weeks, during which time the coughing and vomiting continued One week after the accident she first began to complain of pain in her right side No hemorrhage or bloody sputum had been expectorated

The examination on admission revealed the following Temperature, 104 4 F , respirations, 36, pulse, 140 There was nothing significant about the throat, except enlarged tonsils The abdomen, spleen, liver and heart were negative The whole of the lower lobe of the right lung was consolidated The dulness—almost flatness—was well marked, and very little air seemed to be entering this portion of the lung The other portions of the lungs were negative, except for a few rales

The dulness and almost complete absence of breath sounds made me suspect fluid in the right chest, but on the day after admission the temperature dropped to 96 2 F The temperature, however, rose again on the following day to 103 F The respirations were 32, and the pulse 132 The examination of the urine was negative The blood examination showed, leucocytes, 13,680, hemoglobin, 64 per cent Nine days later the leucocytes numbered 17,369, and the hemoglobin was 70 per cent On November 17, the breath sounds with bronchial breathing were again heard at the root of the right lung Since November 18, three days after admission, the temperature has remained normal, or practically so On November 20, during a severe coughing paroxysm, she coughed up a large steel carpet tack of the square style, with a large round head, length, 1 5 cm , circumference of the head, 2 cm It was brought up into the larynx and she seemed to choke The nurse, assisting her to get rid of what was supposed to be thick mucus, brought forth the tack with her finger The lung has completely returned to normal, and on December 2 the blood examination showed the leucocytes to be 9,760, red corpuscles 4,580,000, hemoglobin 78 per cent She was discharged from the hospital completely recovered The tack remained in the lung twenty six days

In this case the diagnosis seems well established because of the physical signs, the well-marked crisis and the slight leucocytosis

The following cases selected from the literature on the subject are recited briefly because they illustrate the several varieties of traumatic pneumonia

CASE 1 —Balser's case is similar to my own A decorator, who was holding a 14 ounce tack in his mouth, aspirated it, and pneumonia, with crisis in the second week, ensued Sixty three days after the accident, he coughed up the tack and complete recovery followed [1]

CASE 2 —Napier's case is also similar, and it is interesting because the foreign body was not discovered until the autopsy, when the pith of the elder was found in the bronchus communicating with the lower lobes of the right lung This portion of the lung was entirely consolidated and showed numerous abscesses Death came nineteen days after the accident [2]

CASE 3 —Franczak's case in a female, aged 8 years, showed the physical signs of pneumonia after aspirating a water melon seed This remained in her lung for two months, when she coughed it up in a somewhat decayed condition She then made a rapid recovery [3]

CASE 4 —Balser's second case is in a male, aged 60 who aspirated a pea while eating his lunch On the seventh day after the accident, he coughed up the offending substance and in a short time was in his usual good health The evidence of pneumonia appeared two days after the accident [1]

CASE 5 —Foss's first case was in a laborer, aged 44, who fell thirty feet from a scaffold One day after the accident pneu

1 Mediz Monatschr N 3 1889 vol 1 p 36
2 Glasgow Med. Jour 1885 vol xiii p 11
3 Buffalo Med. Jour 1905 6 vol lxviii p 480

LIEUTENANT-COLONEL A. W R COCHRANE, M B F.R.C S, I M S is appointed to officiate as Inspector-General of Civil Hospitals United Provinces with effect from the date on which he assumes charge of his duties until further orders

---

His Excellency the Governor, with the concurrence of his Ministers, is pleased to make the following arrangements during the absence on leave of Lieutenant-Colonel E F G Tucker, I M S —

LIEUTENANT-COLONEL R. M CARTER C.B, I M S, to act as First Physician, J J Hospital, Professor of Medicine and Clinical Medicine and Therapeutics Grant Medical College, Bombay

---

His Excellency the Governor, with the concurrence of his Ministers, is pleased to make the following appointments for a term of one year with effect from the 1st May, 1922 —

MAJOR S B MEHTA M.B, B.S., F.R C S (Edin) I M S (Retd), to be Honorary Surgeon at the J J Hospital, *vice* Mr N J Bandorawalla M S

In exercise of the powers conferred by clause (*a*) sub-section (1) of section 4 of the United Provinces Medical Act III of 1917 the Local Government are pleased to nominate Lieutenant Colonel A W R Cochrane I M S officiating Inspector-General of Civil Hospitals, United Provinces to be President of the United Provinces Medical Council, *vice* Colonel J K Close M D, I M S resigned.

In exercise of the powers conferred by clause (*b*) sub-section (1) of section 4 of the United Provinces Medical Act III of 1917 the Governor acting with his Ministers is pleased to nominate the following persons to be members of the United Provinces Medical Council —

(1) Major M A Rahman I M S Principal, Medical School Agra, *vice* Lieutenant-Colonel A W R. Cochrane I M S, resigned

(2) Lieutenant-Colonel H R. Nutt I M S King George's Medical College Lucknow *vice* Lieutenant-Colonel C. A Sprawson, C.I.E., I M S resigned

(3) Major A W R Mearns I M S Assistant Director of Public Health United Provinces, *vice* Lieutenant-Colonel C L Dunn I M S resigned

---

POSTINGS

THE services of the undermentioned officers are placed permanently at the disposal of the Government of the Punjab with effect from the dates noted against their names —

Major N M Wilson O.B.E. I M S	6th September, 1921
Major R. A. Chambers, O.B.E., M B I M S	6th September, 1921
Major N S Sodhi M C I M S	7th September 1921
Major K. S Singh I M S	17th September 1921
Major D H Rai M C M B, I M S	12th November 1921

LEAVE.

THE undermentioned officer has been granted by His Majesty's Secretary of State for India an extension of leave —

Lieutenant-Colonel S Hutcheson Indian Medical Service, Civil Surgeon 7 months and 18 days' leave on half average salary with effect from the 20th March 1922

LIEUTENANT-COLONEL H M H MELHUISH I M S has been granted by His Majesty's Secretary of State for India extension by four months of the furlough sanctioned in Government Notification No 1614 dated the 14th February 1921

COLONEL J K. CLOSE M D I M S Inspector-General of Civil Hospitals, United Provinces, is granted privilege leave for seven days combined with leave on average pay for six months and ten days with effect from the 21st April 1922 or the subsequent date on which he avails himself of it.

RETIREMENTS.

SUBJECT to His Majesty's approval the undermentioned officers have been permitted by the Right Hon'ble the Secretary of State for India to retire from the service, with effect from the dates specified —

Lieutenant-Colonel Michael Harris Thornely F R C S F Dated 8th February 1922

Lieutenant-Colonel Edward Victor Hugo C M G M D F R C S Dated 8th April, 1922

RESIGNATIONS

THE undermentioned officers are permitted subject to His Majesty's approval to resign their temporary commissions, with effect from the dates specified —

Captain Dattatraya Ganesh Kotibhaskar Dated 19th April 1922

Captain Joseph Christie David Dated 21st March 1922.

Captain Neelakanta Seshadrinathan Dated 1st April 1922

THE undermentioned officers are permitted subject to His Majesty's approval to resign their temporary commissions with effect from the dates specified, and to retain the rank of Captain —

Captain Murli Manohar Dated 26th December, 1921

Captain Lalit Kumar Ray Dated 10th April 1922

WITH reference to Army Department Notification No 380 dated the 10th March 1922, the undermentioned officer is permitted to retain the rank of Captain —

Jnanendranath Das Gupta.

CAPTAIN Frederick Nicholas Jayewardene is permitted subject to His Majesty's approval, to resign his temporary commission with effect from the 7th May 1922

CAPTAIN Khatanmal Teckchand Thadani is permitted subject to His Majesty's approval, to resign his temporary commission with effect from the 28th February 1922 and to retain the rank of Captain

---

WITH reference to Army Department Notification No 233, dated the 10th February 1922 and No 578 dated the 7th April 1922 the undermentioned officers are permitted to retain the rank of Captain —

Kyaw Nyan

Piyara Lal Bhal

PROMOTION

THE following promotion is made subject to His Majesty's approval —

To be Major-General

LIEUTENANT-COLONEL BENJAMIN HOBBS DEARE C I E *vice* Major-General William Henry Banner Robinson C B deceased with effect from the 8th February 1922 Major-General Deare's tenure of appointment will reckon from the same date

---

NOTICES.

The Sir Walter Buchanan Scholarship Epsom College, Epsom

"The Sir Walter Buchanan Scholarship is primarily intended for the sons of deceased or prematurely invalided Officers of the Indian Medical Service, or failing any such candidates, for the sons of legally qualified medical men of pure British parentage in necessituous

bral notch of the vertebra immediately below it. In fact, the articular surfaces are so far separated in the cervical region that with very little longitudinal separation a complete luxation backward can obtain, the body of the upper vertebra resting on the spinal foramen of the vertebra below. As a matter of fact, however, this luxation is rarely seen, the opposite being usually the case, that is to say, the upper or luxated vertebra presses forward. To my mind, there are several reasons for this. The first is that usually the direction of force which brings about the fracture-dislocation is such that the spine is flexed instead of extended and in a flexion the line of least resistance is certainly forward, on account of the fact that the anterior superior lip of the vertebral body is rounded off and inclines downward in the cervical region, while in the thoracic region the bodies of the vertebræ are a trifle thicker posteriorly than anteriorly. This inclination forward and downward, invites a slipping forward of the luxated vertebra, which carries with it the intervertebral disc attached to its inferior surface. This intervertebral disc, in the vast majority of cases succeeds in tearing away the anterior superior lip of the body of the vertebra next below. The obliquity of a fracture of this nature, that is to say, from above posteriorly, in a direction down and anterior, makes a sliding displacement of the upper fragment very easy, and the deformity is often great. It is this deformity which most frequently nips the spinal cord in two or if it does not actually sever it, so crushes it as to make all function or restoration of function an impossibility. This cutting or crushing of the cord takes place between the posterior upper border of the vertebra, next below the luxated one and the arch of the dislocated vertebra, as illustrated in Case 7.

Another variety of fracture-dislocation is illustrated in Case 4 (Fig. 1) in which the contiguous surfaces of two vertebral bodies have crumbled under the forced flexion. The greatest pressure being exerted anteriorly, the anterior lips, superior and inferior, of the two vertebræ in question are chiefly concerned in the crumbling. A second result of the disposition of the pressure is the forcing backward of the intervertebral disc. This disc together with the bony detritus presses against the anterior aspect of the cord.

With forced flexion of the cervical spine, the head being pushed forward and down on the chest, the upper or luxated vertebra can slip forward the posterior lips of the anterior articulating surfaces riding over the anterior lips of the superior articulating surfaces of the vertebra immediately below and becoming locked, as it were, in its superior intervertebral notches. The attenuation of the spinal foramen in this case, though pronounced is not so complete as in backward luxation, unless the deformity be further accentuated by a crashing of one or both vertebral bodies, as in the case reported by Carson.[4] When we reach the lumbar region, what with the increased thickness of the intervertebral discs and the great mobility of the vertebræ, particularly in flexion we find that the bony obstacles to dislocation present in the thoracic region do not here obtain, and an anteroposterior displacement is not only possible but is rendered probable if there be forced flexion of the lumbar spine at the time of or consequent to the injury. Although from a mechanical standpoint, it is theoretically possible to have a pure dislocation in the lumbar region uncomplicated by fracture the lower vertebra slipping forward or backward, yet there are many who think that fracture almost always plays an important part in these injuries.

In the cervical and lower thoracic regions self-reducing dislocation without fracture frequently takes place. We are all familiar with the picture of a case of this kind. A man receives an injury to his spinal column. Careful examination fails to reveal any deformity, crepitus, ecchymosis or other signs of fracture. But there is a partial or complete paralysis present of segmental nature. If this case comes to necropsy, there is found no bony lesion, there may even be a fair amount of firmness in the ligamentous binding, but the spinal cord shows signs of compression opposite an intervertebral disc. At times, this compression is so great that the cord appears as if a string had been tied around it.

There have been many who have advanced the theory that the spinal musculature was a preventive factor in dislocation. This, I consider, is erroneous. As far as prevention of dislocation or fracture-dislocation is concerned, the muscles play absolutely no part whatever. As an argument to uphold this statement, I would call attention to the fact that the most frequent point for fracture dislocation is between the fifth and sixth cervical vertebræ. Let us turn to the anatomy of the muscles in this region. The muscles whose attachments lie directly over the junction of the fifth and sixth cervical vertebræ are the multifidus spinæ, the semispinalis colli, the complexus, the trachelomastoid, the transversalis cervicis, the cervicalis ascendens, the scalenus medius, the scalenus anticus, the rectus capitis anticus major, and the longus colli. Here, then, we have eleven muscular attachments covering this articulation on each side, twenty-two in all, and yet it seems to be the point of election for fracture-dislocation in the cervical region.

We find the spinous processes more frequently broken from the fifth cervical to the end of the thoracic vertebræ. Gurlt[5] says that in the cervical region in less than one-quarter of all cases, and in the thoracic in more than one-half of all cases, the spinous processes are broken. In the thoracic region on account of the peculiar tile-like arrangement of the laminæ, above referred to, when one lamina is fractured, usually several are fractured with it. This, of course, does not refer to gunshot fractures. The spinous processes in the lumbar region according to Gurlt, are fractured in less than one-eighth of all cases. As a rule, transverse and oblique fractures of the vertebral bodies are nearer the upper than the lower surface. Isolated fractures of the articular processes are extremely rare.

Although, as stated above, the muscles of the spinal column play no part in its protection from fracture, yet there are a number of cases on record where fracture has been caused wholly by muscular action. One of these cases, reported by Gurlt, happened in this peculiar manner. A sailor, going in bathing from the deck of a ship, dived and while his body was shooting downward, he realized that there was not enough depth of water for him to escape an accident. For this reason, and in order to save himself, he threw back his head with all his force as he struck the water and sustained a fracture in the cervical region. Another case, likewise reported by Gurlt was that of a man violently insane who, for purposes of restraint, had to be tied in an armchair. In this position he made strenuous nodding movements of the head, endeavoring to loosen his bonds. He also sustained a fracture in the cervical region.

4 Trans. Am. Surg. Assn. 1905.

5 Handb. d. Lehre v. d. Knochenbrüchen. Hamm. 1862.

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the facts that he had been a heavy drinker, and that he denied venereal disease his past history is not relevant

On June 7, 1901 while at work, he fell from a ladder a distance of thirty feet, striking on his back He was taken to the Jefferson Hospital unconscious He regained his consciousness late on the same day, but was delirious and had to be restrained by straps for three or four days When he eventually became rational, it was found that there was complete paralysis, both sensory and motor, of the lower extremities, upward as far as the upper border of the pubes and encircling the body Incontinence of urine and feces came on about one week after the accident, both micturition and defecation having been unimpaired up to this time There was a very tender protrusion over the lower dorsal and lumbar vertebræ, which was the seat of severe pain on motion There was a bed sore over the lower part of the vertebral column

Dr Spiller's notes, dated July 1, 1901, state that there was complete paralysis in the lower limbs the patient being unable to move a muscle "even with the greatest exertion" The lower limbs were flaccid and without contractures The knee jerk, Achilles jerk and Babinski reflex were all absent on each side There was no priapism Irritation of the sole of the foot produced no toe movement, and the cremasteric reflex was not obtained

Dr Spiller's diagnosis was "The man has signs of complete interruption of the spinal cord in the lower thoracic region The probable cause of this interruption is fracture of the lower thoracic vertebra" On July 11, dulness singultus and free perspiration were reported On July 12, it is recorded that hiccough had been present almost constantly, that there was pain in the umbilical region and that on irrigation of the bladder much dark brown fluid and detritus returned through the catheter The patient died at 8 45 p m July 14, hiccough having been present constantly except for short intervals three days before death There was much albumin reported in the urine

I shall omit the general necropsy notes with the exception of a quotation on the kidneys, ureters and bladder, to wit 'Ureters dilated especially on the left side, where ureter reaches size of index finger Kidney enlarged, capsule adherent and adhesions to surrounding tissue On removal of capsule, numerous abscesses were found in the substance of the kidney Pelvis dilated, and both pelvis and ureter contain creamy pus The right kidney enlarged less than the left capsule peels readily, no abscess in cortex. Bladder is distended, contains thick yellowish pus"

From Dr Spiller's dictation at the autopsy I quote the following The scar of an old injury, 4 8 cm long, the cicatrix of which is directly over the spine of the eleventh thoracic vertebra, extends on to the tenth and twelfth vertebræ The spinous process of the tenth vertebra is driven downward The surface edge shows an irregular loss of substance, affecting also the entire superior surface The interval between the tenth and eleventh spinous processes is increased Beginning 5 millimeters from the superior surface of the spine there is an irregular fracture line extending laterally on each side and passing through the corresponding laminæ The right lamina is prominent and shows the chief injury The fracture on this side extends downward and forward through the entire diameter of the lamina The tissues about the lamina are edematous and slightly hemorrhagic On the left side the tissues are involved to a slighter extent, but the remains of the hemorrhage are found in the fascia and spinal muscles The fracture extends through the upper portion of the body of the tenth thoracic vertebra, so that the two portions of the vertebra move freely one on another The spinal cord apparently is completely compressed at the line of fracture and is softened for a distance of 4 cm above the line of fracture The softening at the line of fracture may have been produced at the autopsy

The cervical region shows no gross lesions The dura below the line of fracture is much injected much more so than above the line of fracture Spiller founds his paper,[9] The Sensory Segmental Area of the Umbilicus' on this case

I wish to call attention to the urinary condition in this case In many cases of fracture-dislocation involving the lower thoracic region of the spinal column hematuria is a common symptom This is, at times, caused by trauma to the kidney substance But there are likewise many of these cases in which the kidney is uninjured and yet hematuria comes on the second, third, or fourth day, or even later Wagner and Stolper,[10] in speaking of the temporary suppression of urine often seen immediately following spinal fracture, advance the theory that this suppression is due to the fact that consequent to the attraction of blood to the lower limbs on account of the vasomotor palsy of these parts, there is produced in the kidney substance a traumatic anemia This anemia causes a great lowering in vitality in the kidney parenchyma which proceeds in many cases to the absolute death of the epithelium lining the tubules These investigators found this condition of affairs two hours after the accident

It seems to me that the hematuria above referred to may well be explained on the same hypothesis The vascular equilibrium being restored the kidney finds itself supplied with blood, which, on account of a badly damaged parenchyma, it can not handle, and hence the hematuria I have recently seen this picture in a dog, a portion of whose spinal cord I exsected in the mid-thoracic region In this animal the hematuria set in on the fourth day after the operation

CASE 3.—Man, aged 56 years, carpet weaver, born in England, was brought to the Philadelphia Hospital thirty six hours after falling down stairs Regarding the decubitus, I quote as follows "Patient, well nourished man, lies with fingers flexed, forearm flexed on the arm, the arms elevated about 15 degrees from the body" A slight power of flexion and extension at elbow was preserved, and he could elevate the upper extremities to right angles with the trunk The act of pronation and supination of the forearms seemed to be accomplished by the biceps muscle, as there was no contraction of the supinator longus when this motion was executed There was no paralysis in either upper or lower extremities The plantar reflexes were slight, the big toes flexing The knee jerks, Achilles tendon jerks, cremasteric, epigastric and abdominal reflexes were all absent The cilio-spinal reflex was present There was a marked retraction of abdominal muscles in respiration At times his penis became partially erect The patient complained of pain in the back of the neck There was a tenderness extending over the seventh cervical and first thoracic vertebræ A bed sore had begun over the right trochanter and also one over the scapula The prick of a pin was followed by a persistent hyperemia of the skin The *patient could* slightly rotate his arms outward

At the postmortem examination a fracture of the skull was discovered over the left parietal and temporal bone, beneath which was an extradural blood clot 8 cm in diameter and having a maximum thickness of 1 5 cm, situated mainly over the motor area There was no subdural hemorrhage and the ventricles were normal The spinal cord exhibited a depression which corresponded to the body of the fourth cervical vertebra, which had been slightly displaced backward The depression was so deep that the cord appeared as if entirely severed Dr Spiller's notes read Compression seems to be between the sixth and seventh cervical segments There were sensory disturbances in the distribution of the fifth cervical segment

This case is interesting for a number of reasons In the first place, the mechanics of the fracture-dislocation was the backward displacement of the cervical vertebra, to which I referred in my general considerations The case was made the subject of a paper by

9 Phila. Med. Jour., Feb 8 1902.

10 Die Verletzungen d Wirbelsäule u d Rückenmarkes Deutsche Chir., No xl 1898

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scess formation of seventh eighth and ninth dorsal vertebræ ' The microscopic examination of the spinal cord shows by the Weigert hematoxylin method well marked degeneration in the columns of Goll, in Gowers columns and in the direct cerebellar tract (Fig 3) The method of Marchi shows degeneration in Goll s column and also a few black dots in Gowers column on the right side Numerous fat crystals were found in the columns of Goll above the lesion in the Marchi preparation, which I shall discuss elsewhere

It appears evident that, on admission to the hospital, the patient had not an absolute solution of continuity in the spinal cord in fact there must have been a goodly amount of normal functionating axons bridging the seat of injury to account for the amount of motor and sensory function still intact The fact that this condition of affairs obtained ten months after the accident should be enough to warrant the prognosis that the acute degenerative changes had extended as far as they were going to extend and barring future trauma and the very slow sclerotic changes the probabilities were that he would have remained *in statu quo* The operation in this case, can not therefore be defended by even the most radical advocates of the knife

The injury the surgeon is able to do to the spinal cord in these cases is here demonstrated beautifully From a chronic condition at rest the case was converted

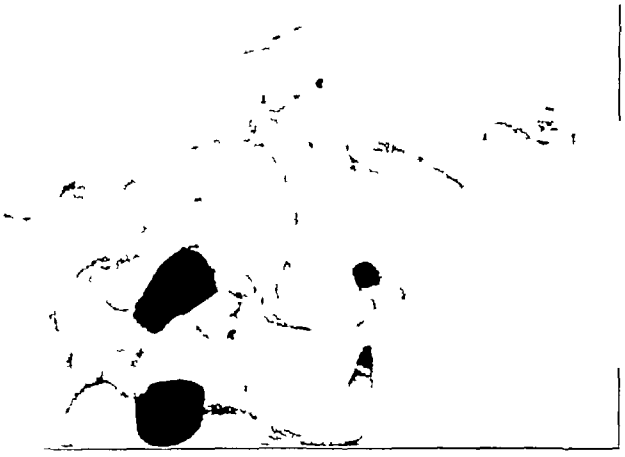


Fig 2.—A dislocation of both articular processes of the atlas on the axis Suicide by hanging (Specimen from the Mütter Museum College of Physicians Philadelphia)

again into an acute condition, the results of the operation being loss of bladder and rectum control, loss of motor and sensory function, and a tendency to bed sore formation

CASE 5.—Man aged 59 years colored born in Delaware was admitted to the Philadelphia Hospital Jan 2 1905 with the history that he had fallen from a wagon and had struck on his head After the accident he was able to walk with assistance for about one hour, when his lower limbs became completely paralyzed He had a loss of tactile and temperature sensation in the lower limbs and on the trunk extending up to above the third rib Above this there was a band of hyperesthesia He was able to move his arms, but was unable to flex his fingers or move his thumbs His third rib on the left side was dislocated at its sternal junction He answered questions coherently He had on admission, retention of urine and feces and complained of pain in his neck There are no further notes on the case during life The patient died January 3

The following is quoted from the postmortem record "Fracture of sixth cervical vertebra body Fracture of the laminæ of the fifth and sixth cervical vertebræ Ligamentous rupture between sixth and seventh spinous processes of the cervical vertebræ, also between second and third dorsal vertebræ Transverse fracture of sternum The musculature over the sixth, seventh and eighth cervical vertebræ infiltrated with blood The part of the cord overlying the fracture is slightly compressed and softer in consistency than portions either above or below" Here follows a rather involved description of a fracture of the skull, the exact localization of which is not evident, but which is obviously considerable in extent from this quotation "Subdural hemorrhage in the left anterior fossa, left middle fossa and right posterior fossa There is an irregular macerated area involving the inferior frontal and middle convolutions of the left side"

Sections were made from the second or third, the sixth seventh and eighth cervical regions and also from the first and second thoracic regions They were stained by the hemalum acid fuchsin and Weigert's hematoxylin methods The sections from the highest block of tissue, either second or third cervical, appeared normal At the level of the sixth cervical segment there appears a hemorrhage in the gray matter on both sides of the cord and also in the anterior commissure These hemorrhagic foci are all distinct and separate There is great injection of the anterior central branches of the anterior spinal artery, and in the eighth cervical segment this pressure has been so great that there appear minute areas where the red blood corpuscles have broken through the wall

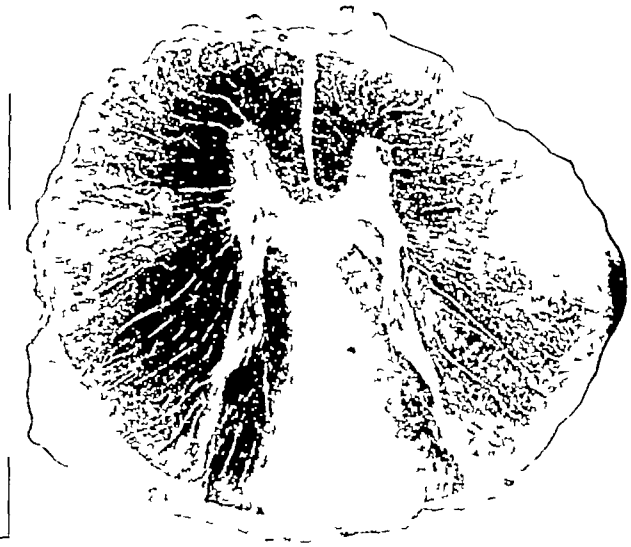


Fig 3.—Case 4 A section of the spinal cord in the mid thoracic region showing intense degeneration in the columns of Goll and also some degeneration in the direct cerebellar and Gowers tracts (Weigert preparation)

of the blood vessel and are lying free in the anterior fissure In the upper part of the seventh cervical segment the hemorrhages found in the segment above are not present There exists here simply an overdistension of the central branch of the anterior spinal artery, with a leakage from this vessel of red blood cells into the margins of the anterior columns of the cord

In the lower part of the seventh cervical segment there is a rupture of an artery in the anterior gray commissure, the hemorrhage extending directly backward *into the posterior* columns for about one fifth their depth There is also in this level a very minute hemorrhage in the center of the gray matter of one anterior horn and the central branch of the anterior spinal artery is greatly distended In the eighth cervical segment the entire gray matter is hemorrhagic, the extravasations extending into the contiguous white matter The first thoracic segment is the same as the eighth cervical, except much more pronounced and here there seem to be hemorrhagic processes in the white matter of the lateral and posterior columns (Fig 4) In the second thoracic segment the hemorrhage is not found in the white matter and, except for one minute focus in one anterior horn, is confined altogether to the other anterior horn

Original Articles.

SOME ECONOMIC ASPECTS OF BENGAL MALARIA

By DR. C A BENTLEY,
Director of Public Health, Bengal

ONE hundred and thirty years ago Malthus, an obscure country clergyman stated in his now famous essay that everything depends on the relative proportions between population and food" Fifty years later Darwin was led to apply this doctrine to the whole animal and vegetable world and the results of his work published long afterwards, laid the foundations of the modern science of biology and produced a revolution in every department of thought The laws of population enunciated by Malthus and extended by Darwin have thus exerted a profound influence upon nearly every branch of knowledge, and their fundamental importance in connexion with the study of epidemiology and the problem of disease prevention is at last being recognized

Every organic being naturally increases at so high a rate that if not destroyed, the earth would soon be covered by the progeny of a single pair There is no exception to the rule, even slow-breeding man has doubled in twenty-five years But a continual doubling of his numbers every quarter of a century cannot take place In any long settled country mankind cannot increase at anything like the maximum rate The fundamental reason of this is to be found in the tendency to diminishing returns from the soil On any given area that tendency shows itself for all agricultural produce The tendency towards increase in population must then be counteracted, and it may be counteracted in two ways, to which Malthus gave the names 'positive' and 'preventive checks' By positive checks he meant those which cut down numbers already brought into the world—starvation, disease war, misery in all its forms By preventive checks he meant those which prevent numbers from being brought into the world

The present paper concerns disease, one of Malthus' positive checks, which operates through a high death-rate or in other words through an excess of deaths

Bengal is a huge swamp, peopled, as the *Ragubansa* puts it, with eaters of rice and fish and dwellers in boats "A good rice swamp is a bog at all seasons, and at one season a bog covered with water," says Adam Smith , and he points out, it is "unfit either for corn or pasture and the lands fit for those purposes are not fit for rice" But it has one great advantage "A rice field produces a much greater quantity of food than the most fertile corn field" Rice itself is an aquatic grass which cannot thrive without ample water and which suffers from deficiency far more than from excess It can adapt itself to floods but it cannot stand drought The long-stemmed varieties will grow 12 inches in 24 hours and withstand submerging for three days, and provided the crop is not drowned outright the greater the depth of water on the fields the better the yield of grain Besides producing rice, swamps abound in fish, another valuable food of man Hence rice-swamps supplied with sufficient water tend to become very densely populated "The numbers of a population," says Darwin, "depend primarily on the means of subsistence and this depends partly on the physical nature of the country but in a much higher degree on the arts which are there practised"

Agriculture is the art most widely practised in Bengal, rice occupies 85 per cent of the cultivable area, and jute, another swamp crop, a further 10 per cent and as we shall see later these facts have an important bearing on the density and growth of population, which are by no means uniform throughout the country

Bengal is divided by its main river systems into four natural divisions, *viz*, Western, Central, Northern, and Eastern Bengal respectively Since the first Census of 1872 there have been remarkable variations in the rate of growth of the population in these four divisions as may be seen from the statements quoted

Increase of Population

	Population in 1872	Population in 1921	1872—1921 increase per cent
Western Bengal	764,661	8,039,704	+ 5·7
Central Bengal	8,202,780	9,433,544	+27 1
Northern Bengal	8,045,432	10,358,303	+28 8
Eastern Bengal	10,980,504	18,650,139	+69 8

Density of Population

	Density per square mile		Increase
	1872	1921	
Western Bengal	545	570	+ 25
Central Bengal	424	539	+115
Northern Bengal	418	538	+120
Eastern Bengal	479	815	+336

The extraordinary development of the population in Eastern Bengal is due entirely to natural growth by excess of births over deaths, there are few towns and no important industries to attract immigrants, this natural division also, as a matter of fact, has lost rather than gained by migration This area affords therefore an example of normal expansion occurring in an agricultural population living under relatively favourable conditions Conditions are obviously very diffi

On January 2 after an x ray examination, in which the bullet was located, the patient was operated on, an exploratory laminectomy being done The fourth, fifth and sixth thoracic spines were removed but the bullet was not found The patient lived until February 22 During this time he gradually grew weaker The wound proved very refractory and there remained several sinuses leading to the spinal cord

The history records, after the operation, an incontinence of urine and feces, but whether this condition obtained before the operation is not indicated, but probably it did There is also noted on February 10 that there was a "large bed sore over the right hip exposing the trochanter and eight inches of the shaft of the femur"

At the autopsy the bullet was found imbedded in the body of the fourth thoracic vertebra, where it had been located by the x ray

The microscopic examination shows an intense degeneration by Marchi's method at the level of the lower part of the pyramidal decussation in Goll's columns, in the direct cerebellar columns and in Gowers columns In the eighth cervical segment there is a degeneration of some of the anterior cornual cells also there is seen here by Weigert's method degeneration in the columns of Goll and the direct cerebellar and Gowers'

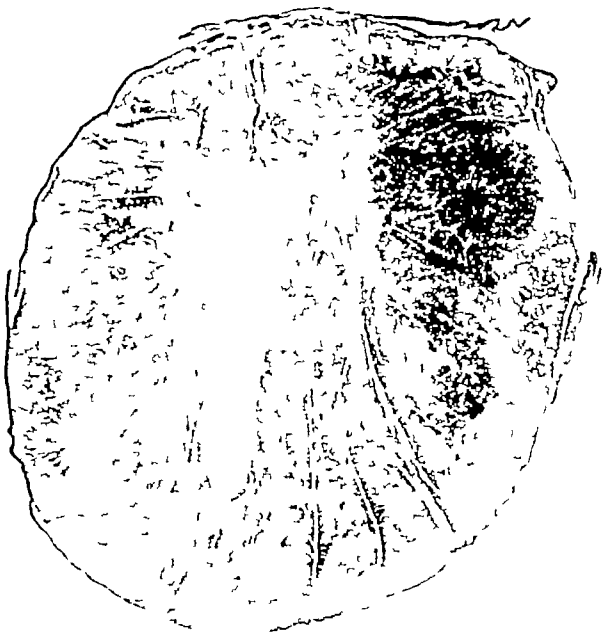


Fig 5—Case 7 A section of the spinal cord about 5 cm (fourth block) below the seat of compression showing area of central softening and two areas of degeneration peripherally and symmetrically situated (Weigert preparation)

tracts Both Weigert's hematoxylin and Marchi preparations show degeneration in both crossed pyramidal tracts in the lumbar region Sections from the seat of compression show complete disintegration of the spinal cord only a few irregularly scattered groups of axis cylinders remaining normal and intact and these mostly at the periphery of the spinal cord The degeneration when followed up into the medulla by the Marchi method shows very beautifully the parting in different directions between the direct cerebellar tract as it swings back into the restiform body and Gowers tract continuing upward

This case introduces an important point which is frequently brought up in arguments pro and con laminectomy in cases of spinal fracture-dislocation One of the chief reasons advanced by the surgeon or surgically inclined neurologist for operating in these cases is, as Burrell says that if pressure on the cord is allowed to remain for many hours irreparable damage to the cord may take place This statement would infer that the immediate removal of pressure would tend to prevent the "irreparable damage to the cord," which idea is wholly fallacious The spinal cord in this case had barely been grazed by the bullet, the dura mater being intact and without abrasion The bullet had lodged in the vertebra and was exerting no pressure whatsoever on the spinal cord Therefore, whatever injury obtained resulted from the instantaneous pressure of the bullet in passing a pressure indenting possibly the dura but not enough to abrade or tear it, and then absolutely removed And yet, note the wholesale destruction of cord tissue in this case It seems to me that in weighing your data pro and con operation in these cases the pressure of fragments should not be the reason for a rapid operation If a fragment has exerted pressure sufficient to cause degeneration, that degeneration will take place and be as immutable one second after the reception, of the injury as it would be one week after When the dura was opened in this case the cord was found completely softened

CASE 7.—Man, aged 38 years, an iron worker, born in America, was brought to St Joseph's Hospital, Oct 14, 1906 Dr Spellisy, whose patient he was, has kindly furnished me with the following brief facts The family history was negative, as was also his past history On the date of his admission he was working on a scaffold, when it gave way and he fell a distance of thirty feet What part of his body struck the ground is not known He did not lose consciousness, but was unable to get up He complained of pain in his arms and

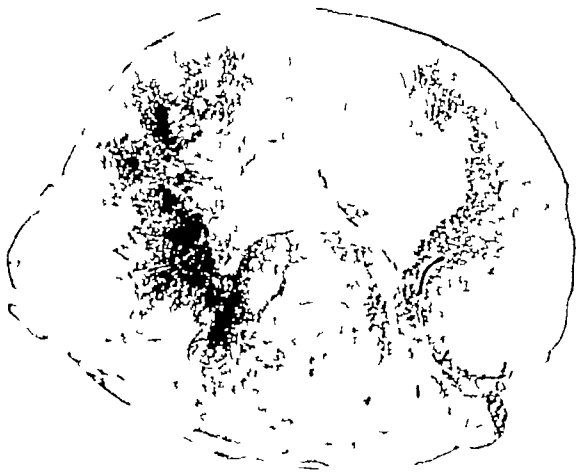


Fig 6—Case 8 A section of the spinal cord immediately above the seat of compression showing intense degeneration and disintegration of cord substance (Weigert preparation)

upper part of back This pain he described as like red hot irons going through his arms

He was a well nourished and well built man There was loss of sensation up to the second rib, the limiting line of anesthesia circling the body horizontally He had retention of urine and incontinence of feces There was a slight laceration of the scalp The eyes were normal The loss of the sense of pain extended above the loss of tactile sensation Knee jerks and plantar reflexes were absent There was a loss of the power of the flexors of the fingers The patient gradually lost ground and died October 31

I received the pathologic material in the shape of a portion of the spinal column, including two vertebræ below the point of fracture dislocation and six vertebræ above Judging from the topography of the gray and white matter of the highest segment the legion involves the upper part of the thoracic cord For a distance of about four centimeters the cord is absolutely softened having been nipped between the posterior superior edge of the vertebral body next below the luxated vertebra and the arch of the dislocated vertebra From a point one and a half centimeters below the point of constriction to fully five centimeters distal there was an area of soft-

edema, otherwise there will ensue very slow and imperfect absorption and trophic changes might occur

The question of operation will always be much discussed I wish to note a few of the justifications which have been advanced for operation in these cases Tubby[18] says, operation is indicated if there be "pressure from fractured laminæ, or from a process driven inward, or a spicule of bone perforating the theca and cord, hemorrhage and when the cauda equina and lumbar sacral plexuses of nerves are implicated" McCosh[19] says, "(1) The risk of the operation of laminectomy is slight (2) Early operation is of the greatest importance Operate before the onset of degenerative changes (3) (4) Operate rapidly Employ but few artery forceps or ligatures (5) Support of the spinal column after operation is generally unnecessary" Burrell says, "An open operation gives definite information as to the condition of the cord and, above all, allows pressure to be removed" Haynes[20] says that all patients who survive the shock of the injury to the spinal cord and its complications should, in gunshot cases, be operated on The following are the conditions which he thinks demand laminectomy "(1) To remove the bullet, or spiculæ of bone or particles of clothing, (2) to remove blood clots, (3) to arrest hemorrhage, (4) to allow oozing in traumatic edema of the cord, (5) to prevent pressure and sepsis by drainage, (6) in advancing paralysis, (7) to suture a severed cord" Oliver says to operate where there is "some acute function of the spinal cord In other cases, those in which there is no such evidence, it is highly probable that nothing is lost by waiting two or three days" Munro suggests a union of the roots above and below the injury in cases where there is division of the cord Horsley advises waiting a few days and then operating to remove fractured laminæ or projecting portions of the vertebral bodies or at times intervertebral discs

Tubby's argument as to pressure I have answered above (Case 6) To McCosh's advice relative to the slight risk of laminectomy in spinal fracture-dislocation cases, I can only say that literature teems with cases whose future course after operation is the strongest denial of that statement No matter what good is to be done mechanically, there is no denying that to operate is to convert a simple into a compound fracture, and the risk of such a measure can never be spoken of as slight no matter how skillful or aseptic is the operation As to Burrell's statement anent the definite information concerning the condition of the cord which we gain by open operation, it is really hard to take that seriously If there is one thing that a laminectomy frequently fails to do, it is to give much or at times any clue to the condition of the cord (Case 6)

Spiller[21] answers Haynes' argument in favor of operation by calling attention to the fact that some authorities consider the symptoms of compression due in reality to secondary degeneration He thinks moreover, that the removal of an external clot on the cord is of doubtful value and he questions the good influence of an operation on an edema of the cord following fracture or injury of the spine The seventh point taken up in Haynes' argument, i e "to suture the severed cord," need not be discussed, except to say that the entire weight of all careful observation and evidence is against the possibility of the cut ends uniting so that there ever will be functional continuity between the two ends This takes into account the several alleged cases of spinal cord suture with partial return of function afterward M Allen Starr,[22] denies that repair of the spinal cord ever occurs He says that scar tissue may form, but that "restoration of continuity of the nerve fibers" is impossible He gives the weight of his opinion against operating saying that the results are "uniformly disappointing"

Oliver's[23] advice to operate where there is "some acute function of the spinal cord" remaining seems to me diametrically opposed to reason. If one be fortunate enough to have an incomplete lesion of the spinal cord following a fracture-dislocation why run the risk of converting it into a complete lesion as in one of my cases quoted above (Case 4)?

Munro's[24] suggestion of suturing the nerve roots immediately above the lesion to those immediately below is fantastic only because of our lack of experimental data in this direction He evidently advances that means, accepting the doctrine, that axon regeneration is dependent on the nuclei of the neurilemma and can never take place in a cord suture, the cord lacking neurilemma

The work of Kilvington[25] has lent additional weight to Munro's suggestion This investigator (Kilvington) sutured in a dog, the central ends of spinal nerve roots leading to the hind limbs to the peripheral ends of the nerves to the rectum and bladder, with successful results He thinks that nerve crossing would not be feasible in the cervical region in man, but that in the dorso-lumbar region it would be possible He found from dissection that the second and third sacral roots could be joined to the first lumbar root, provided that the latter be divided as low as possible (where it pierces the dura)

Horsley's[26] views have been so adequately answered by Spiller in his reply to Haynes that I need not further dilate on them

When are we to recommend operation in cases of fracture-dislocation of the spinal column? In answering this question we must not base our advice on the isolated cases reported in which brilliant results have come after radical operative procedure These cases are often will-o'-the-wisps leading to disaster because we are as yet too ignorant of the processes of regeneration and spinal surgery to be able to see what factor in a particular case made for success, and in our ignorance we are prone to ascribe it to superlative surgical technic, promptness in operating, etc, factors any one of which is easily within our power and which if they were the true crux of the question would forever set aside the dispute on the subject

A compound fracture of the spinal column, whether caused by gunshot or other violence is often a suitable case for operation Here there is not the conversion of a simple into a compound fracture Do as little as possible in the operation in the way of removal or reposi-

18 Injuries to Spinal Column and Spinal Cord, Clin. Jour vol xxiv No 25 1904 p [illegible]

19 Remarks on Spinal Surgery with Illustrative Cases JOURNAL A M A Nos 9 and 10 vol xxxvii

20 Gunshot Wounds of the Spinal Cord, a Plea for Early Meddling by with Report of a Case of Bullet Wound Through the Liver Spinal Column and Cord Laparotomy Laminectomy Recovery N Y Med. Jour Sept 22 29 1906

21 Keen's System of Surgery vol ii 1907

22 Organic Nervous Diseases 1903, p 381

23 Injuries to the Spine and Their Treatment Cincinnati Lancet-Clinic 1903, p 480

24 Laminectomy JOURNAL A M A, Jan 6 1900 vol xxxiv p 12

25 An Investigation on the Regeneration of Nerves with Regard to Surgical Treatment of Certain Paralyses Brit. Med. Jour April 27 1907 p 988

26 Allbutt's System of Medicine vol vii p 871

of the former salubrious climate We shall have occasion to refer to the cause of the change of climate at Cossimbazaar a little later Meanwhile we must return to the discussion of the larger question regarding the more recent serious depopulation of so many portions of Bengal

Attention has already been called to the fact that a serious decline of population indicates that a definite change has come over the affected area, and as we have seen, the effects of such a change are not limited to man but are certain to exert a very marked influence also on both the flora and fauna of the locality, resulting in an increase of certain species and a decrease of others This view is borne out by the evidence which shows that both the plant and animal life of the areas undergoing depopulation exhibit an increase in certain directions and a decrease in others, and many of these increases and decreases are of special importance to man from an economic standpoint, affecting as they do the question of available food supply very greatly

The most prominent and best recognized change in relation to fauna is to be seen in the great increase of malaria If we compare a map of the areas suffering from a decline of population with another showing the relative prevalence of malaria we shall see that there is a rough correspondence between them Depopulation is therefore, generally associated with intense malaria Evidence points to the fact that in the areas in which the human population is declining malaria has increased very greatly during the last sixty years

The relative prevalence of Malaria

	Fever Indices.		
	1868	1912	1920
	per cent	per cent	per cent
Western Bengal	21 9	40 9	51 7
Central Bengal	17 3	32 3	44 9
Northern Bengal	22 3	23 7	33 5
Eastern Bengal	9 3	7 5	14·0

Burdwan, Birbhum, Bankura, Midnapur and Hooghly in Western Bengal were at one time relatively free of malaria and were regarded as sanitaria

Similarly Murshidabad and Nadia and a great portion of Jessore in Central Bengal were formerly healthy, and Pabna and Malda in North Bengal were also relatively salubrious In Eastern Bengal Tangail in Mymensingh, Manikganj in Dacca and the Northern portions of the Faridpur district which are now malarious were formerly relatively free of the disease

This admitted increase of malaria can only be explained on the assumption that there has been a corresponding increase in the number and distribution of anopheles mosquitoes and malarial parasites in the areas affected Unfortunately there are no actual observations on this point But it must be remembered that the malarial parasite was only discovered in 1880, and the part played by anopheles mosquitoes in its transmission as late as 1898, long after this increase of malaria had taken place Many healthy localities in which population is increasing usually show scanty signs of malaria But anopheles mosquitoes of species capable of harbouring the malarial parasite are to be found everywhere and often occur in large numbers in these healthy areas They do not, however, appear to multiply greatly during the wet season, as they do in the unhealthy areas, so that the period of their greatest prevalence does not correspond with that most suitable for the proliferation of malarial parasites Meanwhile it may be noted that there are grounds for believing that in the decadent areas anopheles mosquitoes are now far more prevalent during the period of July to October than they used to be and that this change is associated with a greatly lessened supply of water

Other important variations in the fauna of the areas undergoing depopulation, are the notable decrease in fish of all kinds and the great increase in the prevalence of certain mammals, wild hog for example The decrease of fish is generally recognised and has been reported on by Sir K C Gupta, I C S and Mr K C De, C I E I C S The increase of wild hog and other vermin is also generally admitted and is often ascribed to the increase of jungle Both of these changes are important from an economic standpoint, the reduction in fish, because it means a lessening of the food supply and the increase of wild hog, etc because it results in greater damage to crops A further minor change in the fauna of certain of the areas now undergoing depopulation is the reduction in the number of silkworms produced This is also a matter of economic importance to man

We have now to consider certain changes that have taken place in the flora of the areas undergoing depopulation As will be seen, many of these changes are of supreme importance to man from an economic standpoint

The most noticeable change is the lapsing of cultivated or inhabited areas into jungle This was previously noticed in the case of Cossimbazaar but it has become so apparent in later years as frequently to be accepted as a primary cause both of the general increase of malaria and of depopulation Certain facts require to be noted about this increase of jungle In the first place it is confined almost entirely to the more elevated and drier localities, the high banks of the rivers and on village sites for instance, and it is especially noticeable in places where population has declined In the second place, contrary to what is often stated, this growth of jungle, as the Nadia Fever Commission pointed out "is of a kind that

In the cases where the dislocated bones actually compress the cord it is obvious that an operation is indicated, but apparently these cases are not very common Dr Thomas cited the case of a boy who came to the surgical dispensary of the Johns Hopkins Hospital, complaining simply of a stiff neck. He was perfectly well in other respects had absolutely no paralyses or other nervous symptoms On examination it was found that one of the spines of the cervical vertebræ seemed to be depressed and an *x* ray examination revealed a condition that was taken to demonstrate a dislocation forward of the fourth cervical vertebra The boy was so little incommoded that he did not return to the hospital and has been lost sight of

DR. CHARLES K. MILLS, Philadelphia, said that his experience, in a general way, is against operation for fractures of the spine but he did not agree with Dr Spiller that operation should never be performed in these cases He has seen a very few instances in which it has been of value. One mistake, which is sometimes made, is in doing the operation too soon after the injury Operation should be done neither too early nor too late. It should be performed, if at all, within a reasonable period after, but not too far removed from the accident High operations nearly always prove disastrous, that is, operations on the cervical and upper thoracic vertebræ. Dr Mills has seen patients who were not operated on and who seemed to be extremely serious if not absolutely hopeless cases, but they made an approximate recovery after a long time

DR PHILIP ZENNER, Cincinnati Ohio, has seen two cases within the last six or eight months that would lead one to hesitate as to operating One patient, aged 18 or 20 years, in doing some stunts on his bedstead, fell on his head and fractured the fourth or fifth cervical vertebra, as shown by the *x* ray picture Examination showed that he had paralysis of both arms, bladder and rectum, and was suffering from extreme pain Three or four months later all of the symptoms had disappeared A second patient had been injured very seriously some four months previously in the sacral and lower lumbar region He had been completely paralyzed, according to his statement and for a month he could not move his legs at all When Dr Zenner saw him one leg was normal while in the other there was anesthesia and paralysis of some of the muscles of the foot Such cases, he thought, show that we may be fortunate if we hesitate to operate

DR C C HERSMANN, Pittsburg, also agreed with Dr Spiller However he can remember when the same was said with regard to trephining When he was a medical student the professor advised never to trephine as a rule, but to trephine as an exception Dr Sterne he thought, was either utterly mistaken or his knowledge was at fault Among the many cases of spinal injuries which Dr Hersmann has seen in the last twenty years or more there has been only one patient that apparently recovered The boy fell out of an apple tree, and broke his neck" Laminectomy was done and the boy apparently made a good recovery However Dr Hersmann has seen very few cases of spinal injury benefited after operation and he believes as many patients would recover without operative interference as with it

DR MORTON PRINCE Boston, Mass., has gone over the records of the Boston City Hopital cases of spinal cord injuries for some twenty years back and has been attempting for some time to follow up all the cases after leaving the hospital with a view to learning what the final result has been Taking the cases that have occurred during a long period of time and after having observed personally a large number of cases operated and not operated on Dr Prince has seen improvement without operation and improvement following operation but he can not say that he has ever seen any improvement which he could logically and certainly attribute to the operation itself Operations for traumatism of the cord are nowadays rarely recommended either by his neurological colleagues or by himself unless there is some exceptional reason to justify this course And yet the prognosis in severe cases when there is reason to believe the lesion of the cord is complete is so hopeless by had that he has felt that there is no particular objection to any surgeon trying the operation if he wishes to do so Dr Prince would not go as far as Dr Spiller does in saying that it actually does harm, although the operation, in his opinion, is not nearly as harmless as it is sometimes said to be, but is attended by considerable danger, meaning immediate risk to life, particularly in the hands of surgeons who are not skilled in the technic

DR. STERNE asked whether that also included the operations of choice for other injuries on the cord

DR. PRINCE replied that he was speaking of fractures and dislocations causing structural injuries to the cord such as frequently come into the hospital

DR. SPILLER remarked that he did not say that no case of fracture should be operated on, nor that operation is necessarily injurious, but that it may be injurious In one case the evil effects of operation were clearly shown

DR ALFRED REGINALD ALLEN, Philadelphia, answering Dr Sterne, said that, in the first place, there is no saying definitely that the cord is destroyed or that it is not Even weeks or months will not answer that question in some cases In others there is an absolute abolition of all the reflexes, and absolute abolition of all sensory and motor phenomena, from which one would be led to suppose that there is a complete lesion of the cord, and yet in the course of time the patient gets well, even without operation There are a number of such cases on record In a case referred to in the paper there was no point of exit of the bullet. The man was paralyzed, and Dr Spiller diagnosed the level of the lesion When the case came to autopsy the bullet was found imbedded in that particular vertebra In passing it had not wounded the dura in the least, but had evidently just touched it The cord for a distance of about 4 cm was completely destroyed Dr Allen thought that in Dr Sterne's case, instead of completely destroying the cord, the bullet did what frequently happens in fracture dislocations—*it produced enough temporary injury to cause the paralysis and the other symptoms* Even some of the severest cases get well without operation Like Dr Spiller, he holds that these cases are better left alone surgically In fact, judging from the hundreds of cases that he has gone over in the last eight months, he does not believe that we are justified in operating, except in a very few instances, until by experimental surgery on the lower animals we get some method of suturing the spinal cord Dr Thomas' case, he thought, was one in which, *from his description of* cervical dislocation the upper or luxated vertebra had slipped forward, the inferior articular process locking in front of the superior articular process of the vertebra next below

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THE ENDEMIC OCCURRENCE OF CANCER IN FISHERSVILLE, VA, AND VICINITY *

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The principal facts of the histogenesis and structural peculiarities arising from different types of tissues have been pretty well worked out[1] and the workers in this field have allied themselves with the bacteriologist, chemist and biologist in their efforts to determine the etiology of malignant tumors, but so far they are unable even to determine whether cancer is of internal or external origin There is much evidence in support of the theory that cancer is due to some micro-organism, and certain protozoa have been accredited with being the cause, but skepticism still prevails among the rank and file of the profession

The experimental investigation of cancer in animals is, *perhaps, the most recent and most promising field of* research and the studies of Gaylord and Clows, and of Leo Loeb, in this country, have done much to stimulate interest along biologic lines There is much yet to be

* Read before the Medical Society of Virginia Nov 13 1907

1 Observations on the Inoculability of Tumors etc International Clinics vol III, Seventeenth series.

only 8 and 2 per cent in Central and Western Bengal respectively And a comparison of data regarding the relative abundance of water indicates a close relationship between the supply of water and the yield of jute. Generally speaking also a rapid increase of population occurs in areas where jute is largely grown, whereas a reduction in the cultivation of jute is often followed by decline of population

Among other minor changes in the flora of areas that are losing population the disappearance of indigo and the reduction of mulberry may be mentioned Indigo was formerly cultivated very widely, especially in Western and Central Bengal and in parts of Faridpur and Dacca, but it is no longer grown in any quantity and the indigo factories are all in ruins Mulberry too has already undergone a very marked reduction in consequence of the decline in sericulture Another change is the practical disappearance of cotton as a cultivated crop in the greater majority of the districts within the last century But this latter change appears to have occurred long before the great increase of malaria and the rapid decline of population with which we are now concerned and it is only therefore mentioned in passing

Putting aside for a moment the increase of malaria and the loss of population it will be seen that the other changes that have been noted as occurring among the fauna and the flora respectively of the decadent areas we have been discussing, point the conclusion that a reduction in the water supply is the origin of the trouble First of all there is the receding margin of cultivation This is invariably associated with a lack of water It is always the drier and more elevated lands that go out of cultivation Then there is the increase of jungle which is largely confined to the relatively high banks of rivers and old village sites, showing that the type of vegetation is one which prefers a dry situation rather than a damp water-logged one The tendency for *Aus* paddy to displace the *Aman* variety is also an indication of diminished moisture The decreasing supply of fish affords further evidence of a lessened supply of water, and the increase of wild hog and other animals which has followed the increase of jungle points in the same direction The only fact therefore, which appears to militate against this view of the situation is the very great increase of malaria which has taken place along with these other changes and which at first sight appears to preclude the possibility of a diminished supply of water being the cause of the trouble

But we have only to recall two well-known facts in regard to malaria in order to realise that this difficulty is only an apparent one Ever since Empedocles flooded the marshes surrounding Selinos in Sicily by a canal constructed for the purpose, and in this way freed the city from malaria, it has been known that swampy low-lying localities cease to be unhealthy when temporarily submerged, and in the old days flooding was often deliberately applied both in Italy and Holland for ameliorating malaria, with most excellent results But while the flooding of swamps has long been resorted to for checking malaria the partial removal of water from a marshy area has always been regarded as a most dangerous proceeding, calculated to produce a serious intensification of the disease, this belief being justified by the numerous occasions in which the reclamation of swamps has led to severe outbreaks of malaria Three well-known instances of this kind are the case of the Grand Chartreuse Swamp in France, the low-lands of Biensten and de Wonner in Holland and the Whittlesea Mere in England Such outbreaks were formerly ascribed to miasma given off from the exposed bottom of the marsh But now-a-days the accepted explanation is the great increase of anopheles that takes place when by partial drying up, a large expanse of water is converted into many small shallow pools

We see therefore that all the important changes which can be shown to have occurred in association with the loss of population that has taken place in so many areas in Bengal are consistent with a reduction in the water supply of the affected localities This naturally prompts the question Is there any direct evidence of such a diminution having taken place? In reply it may be stated that for many years the complaint has been general throughout the areas afflicted with severe malaria and undergoing depopulation, that water supplies have diminished In 1867 for example the Revd G Schurr, of Kaspadanga in Nadia reported in a letter to the Magistrate "During the twenty years I have been in this district I have observed a gradual diminution of water supply in old tanks and *khalls* as well as in the rivers"

The following year Dr Sutherland observed of the same district "The district is becoming more and more arid, tanks and other reservoirs of water dry up even before the hot weather, tanks full to over-flowing in the rains rapidly dry up—facts which prove that there has been of late no increase or excess of moisture in the soil" Similar complaints have been put on record at various times in regard to every malarious district As late as 1912 for example Mr Bhola Nath Banerji, Executive Engineer, in charge of the Special Drainage Division, while at work in Jessore reported "If we draw a line from Pultia on the Ichamatty to Jhikergacha on the Kabadak, the country lying to the north of this line may be generally taken as suffering from a scarcity of good drinking water" "It is reported," he adds "that tanks in those parts do not hold water but dry up with the subsidence of the rivers" And he concludes by pointing out that most of the Jhenida subdivision and parts of Magura where people suffer from want of water are the most malarious parts of the district Quite apart from

and is of a distinctly rural character These streams are approximately parallel The country is hilly, providing good natural drainage, and is partly wooded, while the soil for the most part, is exceedingly productive Near South River is a stretch of sandy soil, next comes a belt of limestone, and next to Christian's Creek slate abounds

This section is traversed by two railroads and numerous public highways, making it easy of communication There has been a steady infusion of new blood from Maryland and Pennsylvania for over seventy years The people generally are devoted to agriculture and stock raising, and are unusually prosperous and well informed

These facts, together with the great variety of family names, are adduced in support of the idea that there has been no unusual degree of consanguinity, a probable factor in the etiology of cancer A list of hundreds of confinements attended during the nine years under consideration also convinces me that the

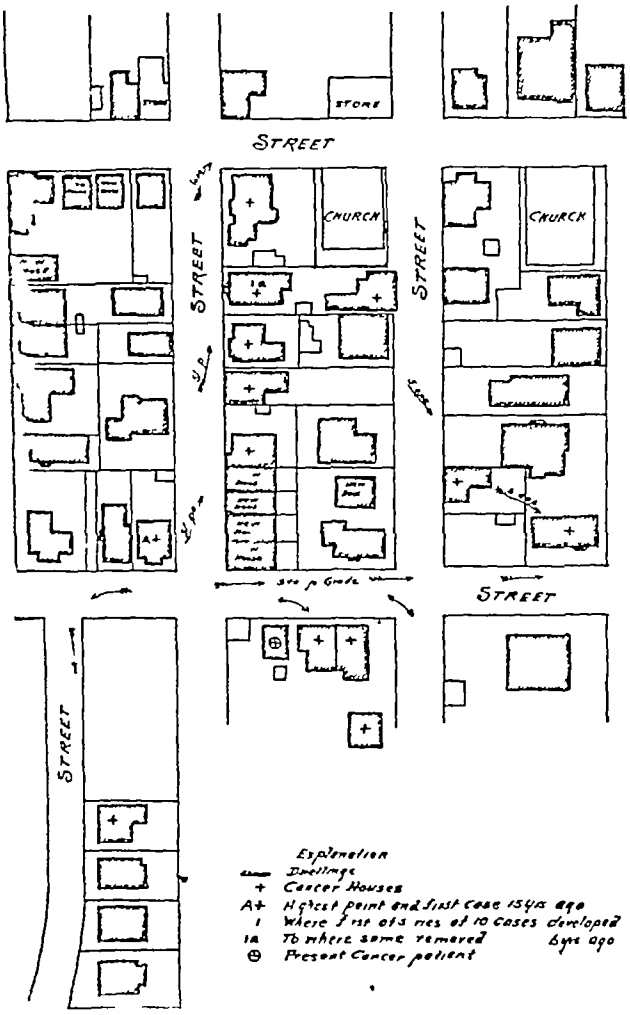


Fig 2—Map showing relationship of houses in which cancer existed The top of the map is north Scale 100 feet to 1 inch

health rate has been well looked after in the Fishersville community and therefore race suicide and senility are not unusual conditions to be reckoned with

My practice embraces an average of about 265 families or some 1 00 people There are other families living within the limits of my work but this report be it understood is confined to the families among whom I practice and does not include cases of cancer and other diseases seen in consultation or deaths due to cancer or other diseases outside the limits of my own work

From October 15 1898 to October 15 1907 a period of nine years there have occurred in my practice not including still-born infants 105 deaths from all causes, 16 or 15 per cent, were due to pneumonia, 17, or 16½ per cent, to tuberculosis, and 18, or 17 per cent, to cancer

In order that we may appreciate this unusually high mortality from cancer, let us compare it with the township of Brookfield N Y, perhaps the most widely known cancer zone in this country With a population two and one-half times as great as the Fishersville district there were in the fifteen year period 1886 to 1900, 1 719 deaths from all causes Of these 70, or 9 7 per cent, were caused by cancer, whereas the Fishersville mortality from cancer during nine years is 18, or 17 per cent, out of a total mortality of 105 The rate in the Fishersville area is, therefore nearly 8 per cent higher than in the Brookfield area

As shown in that report, heredity and consanguinity in my cases were not important factors, there being only one case of direct descent from a cancerous ancestor, and that a great-grandmother One patient had an aunt, one a cousin and one a sister who died of cancer Diligent inquiry has been made of all the regular physicians adjoining me and I find no such death rate from cancer approaching that of my own experience In fact, if I eliminate the city of Staunton, I have had more deaths from cancer during the last nine years than have the six physicians surrounding me combined, and this includes the town of Waynesboro, with a population of 1,400

Now, let us study my cases more closely and see if we are warranted in assuming a probable infectious origin as the cause of this unusual mortality from cancer Two years ago Mrs F died of cancer of the uterus Shortly after her death, Mrs M occupied this brick house, and within two years she was dead of cancer of the liver Mrs A died of cancer of the pancreas She was very friendly with her cousin, Mrs L, who died of cancer of the uterus At Ladd's Post Office, seven years ago, X died of cancer of the rectum Diagonally across the road Mrs S has just died of cancer of the stomach and bowels Three years ago V moved from one-half mile of this house to Waynesboro and he has just died of cancer of the liver, after an illness of eighteen months Seven years ago, near this same house, N died of cancer of the throat, and shortly before Mrs D of cancer of the uterus They were all friends and lived within a radius of a mile One and one-half miles north of Ladd's Miss E died of cancer of the liver metastatic from cancer of the breast, which had been removed one year before Five years afterward her sister, who had lived for years in the same house and nursed her, developed cancer of the pancreas, and has just died, making my third pancreatic case, the diagnosis in every case being confirmed by operation or autopsies One and one-half miles north of this house, in the village of Fishersville, Mrs R and Miss R (not related) died of cancer of the face and rectum, respectively They lived diagonally across the road from each other A few months ago, Mrs S who lived forty feet away from Miss R, died rather suddenly She had a large abdominal tumor and was in ill health, suffering at times with violent abdominal pain, but a positive diagnosis was not made and she is not included in this report Exactly opposite Mrs R's house across the road Mrs H died of a bowel affection which was highly suspicious of cancer and is referred to in my former studies but was not included in my eighteen cases

I have in my possession the names of a number of people who died from cancer within a radius of one and one half miles of Fishersville, about twenty-five or thirty

very much in recent years though there is some evidence to suggest the existence of an unrecognised stage in its life history, which would explain the fact that cultures often reveal an infection which is not to be demonstrated by microscopic examination

Flagellating forms have never—with one or two very rare exceptions, (cf Wenyon)—been found in vertebrate tissues but are confined to cultures and to the alimentary canal of insects

This strongly suggests that the rounded parasites met with in man are special adaptations to a warm-blooded host whilst the flagellates represent a stage in the transmission of the disease by an extra-human cycle

Patton has suggested that as *Leishmania* are undoubtedly *herpetomonads* and indistinguishable morphologically from other *herpetomonads* which infest the bodies of insects, the generic name *Leishmania* should be dropped and the parasite be called *Herpetomonas donovani* The argument against this that the fact of the parasite being able to establish itself in the tissues of the higher animals is sufficient to justify its retaining its present generic position now carries less weight in view of the fact that Laveran, Franchini Fantham, Porter, and others have shewn that the *herpetomonads* of various insects can also establish themselves in vertebrate hosts Though there is much to be said on strictly scientific grounds for the change of name there are arguments of sentiment and established custom for retaining Leishman's name for the parasite which he discovered

THE DIAGNOSIS OF KALA-AZAR

(A) *By clinical examination*

In typical cases this is easy but there are many that are not typical and these provide a wide margin of error

The more I see of the disease the more chary I am in diagnosing or excluding kala-azar on clinical grounds alone For purely clinical records I divide cases into typical, probable suspicious, and doubtful, but no case should be admitted to statistics in any scientific paper on clinical grounds alone The presence of the parasite is the only true criterion of the disease

(B) *Diagnosis by the microscopic examination of the blood*

This used to be and perhaps still is preeminently the Madras method, and Donovan states that 93 per cent of his cases were so diagnosed It has been supposed from this that Madras cases are particularly liable to peripheral blood infections, but I do not believe this, as it has been my experience that the proportion of peripheral blood infections steadily rises with the observer's experience and patience and probably *Leishmania* can be found in the blood of all cases of kala-azar if one has the eyes to see them and the time and patience to search for them

(C) *Diagnosis by spleen puncture*

This is still the method of election and the danger of the small operation is almost negligible I have done between three and four hundred punctures and so far have never seen any ill result In the large majority of cases a single puncture will reveal *Leishmania*, though one negative by no means excludes the diagnosis, as I have punctured a case three times before finding *Leishmania*

(D) *Diagnosis by culture of the peripheral or splenic blood on N N N Medium*

This method is becoming popular and in skilled hands is probably the most reliable of all methods

S A S, Biraj Mohan Das Gupta working with me in the 'Assam Enquiry' is submitting a paper to-day shewing that he was able to grow *Leishmania* in culture from the peripheral blood in 33 out of 35 consecutive cases and that this method is as reliable even as culture of the spleen juice This method was used by us to determine the amount of antimony required to sterilise a case of kala-azar which I shall have occasion to refer to later

(E) *The last and most recent diagnostic method is that dependent on a bio-chemical reaction such as the formol-gel reaction"*

This promises to be the simplest of all methods but so far we do not know its limitations and errors

The method has been described by Spackman, Napier, Fox and myself Our technique is as follows —

Withdraw one or two c c of blood from the patient's vein and run the blood into a small test tube such as a Wassermann tube Allow a few hours for it to clot Withdraw the clear serum and run this into a clean tube Add one drop of commercial formalin to the clear serum In cases of kala-azar the serum rapidly solidifies and becomes opaque so that in a few minutes the serum has become set like boiled white of egg Non-kala-azar serum does not clot or does so very slowly and does not become opaque The limit for a positive reading should be not more than half an hour

We do not know yet to what extent this test is reliable nor what is the result of antimony treatment on the reaction I find the test is inconclusive in some cases which have had prolonged antimony treatment, but whether this indicates a cure I do not know If the "formol-gel reaction" serves to distinguish kala-azar from chronic malaria it will do all that is required, for in practice these are the two diseases most likely to be confused

I recommend everyone to try this test as it is simple and very striking and in time should find its place as a useful if not an infallible diagnostic measure

'CACTIN' AND "CACTINA," AN EXAMINATION INTO THEIR PHYSIOLOGIC ACTION *

S A MATTHEWS,
CHICAGO

Not long since R A Hatcher[1] made a physiologic examination of a number of preparations of *Cactus grandiflorus* which certain enterprising pharmaceutic manufacturing companies were exploiting as possessing invaluable therapeutic properties He evidently went thoroughly into the somewhat limited literature on the subject, and one only needs to refer to his article to find out the present status of our knowledge of the chemistry and the physiologic action of the yet unknown principles contained in *Cactus grandiflorus*

As stated by Hatcher, various principles derived from the different members of the cactus family have been

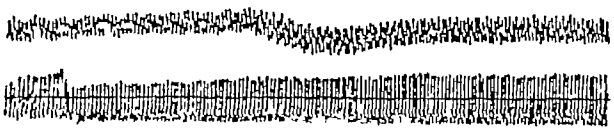


Fig 1.—Cactin experiment Dog wt 8 kg time 10 a m Read from left to right Upper tracing blood pressure lower respiration Normal blood pressure 100 mm Hg At point indicated in tracing 25 cactin granules dissolved in physiologic salt solution were injected into the right saphenous vein (time 10 01) Blood pressure dropped to 90 mm Hg but soon rose again to normal 100 mm No change in rate.

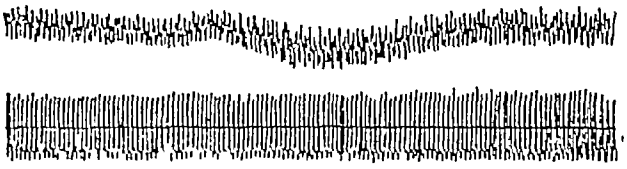


Fig 2.—Ten minutes later (10 10) 25 cactin granules were injected Blood pressure 98 mm Hg No change in rate

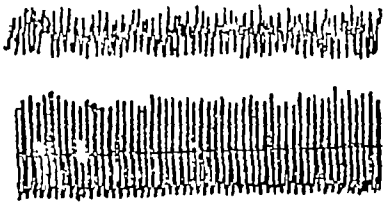


Fig 3.—Ten minutes later (10 20) blood pressure 90 mm Hg No change in rate

subjected to physiologic examination, but few and incomplete are the researches on the physiologic action of anything found in *Cactus grandiflorus* This is probably due to the fact that no one has been able, thus far, to isolate any substance which could be said with any degree of certainty to be either an alkaloid or glucosid contained in this member of the cactin family and possessing physiologic action

Hatcher has left it unnecessary for me to go into the history and literature of the subject hence my only reason for investigating these preparations of cactus at this time is that they are still being advertised as very useful remedial agents therefore a restatement of the place assigned to them by physiologic experiment will not seem out of place

The substances used in this investigation were the so-called "Cactin," prepared from *Cactus grandiflorus* by the Abbott Alkaloidal Company of Chicago, and "Cactina," manufactured by the Sultan Drug Company of St Louis Both preparations were purchased in the open market cactin in the form of granules, each granule said to contain 1/67 grain cactin or approximately 1 mg , cactina in the form of pellets, each said to contain 1/100 grain of "cactina '

CACTIN (ABBOTT)

In the literature sent out by the promoters of this preparation special attention is called to this granule, "it being an invaluable steadier of the circulation" In view of the fact that no one heretofore has been able to find anything in *Cactus grandiflorus* possessing any

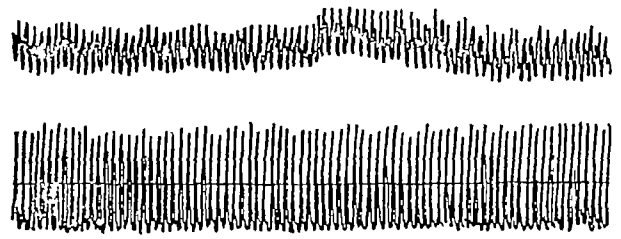


Fig 4.—Ten minutes later (10 30) blood pressure 98 mm Hg 25 cactin granules injected

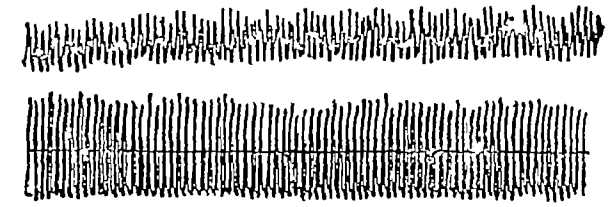


Fig 5.—Ten minutes later (10 40), blood pressure 98 mm Hg no change in rate

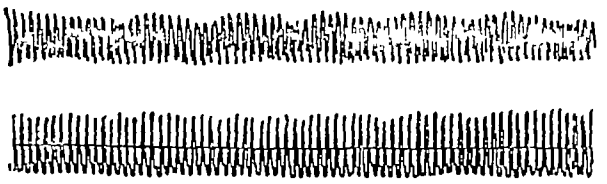


Fig 6.—One hour and twenty minutes later (12 00 m) and after the administration of 7 200 cactin granules blood pressure 98 mm Hg no change in rate

physiologic action whatsoever, the company's claims as to the most extraordinary influence of this preparation on the heart and circulatory organs in general, in any and all deranged conditions of the circulation, are most interesting, indeed, and, if true, most valuable

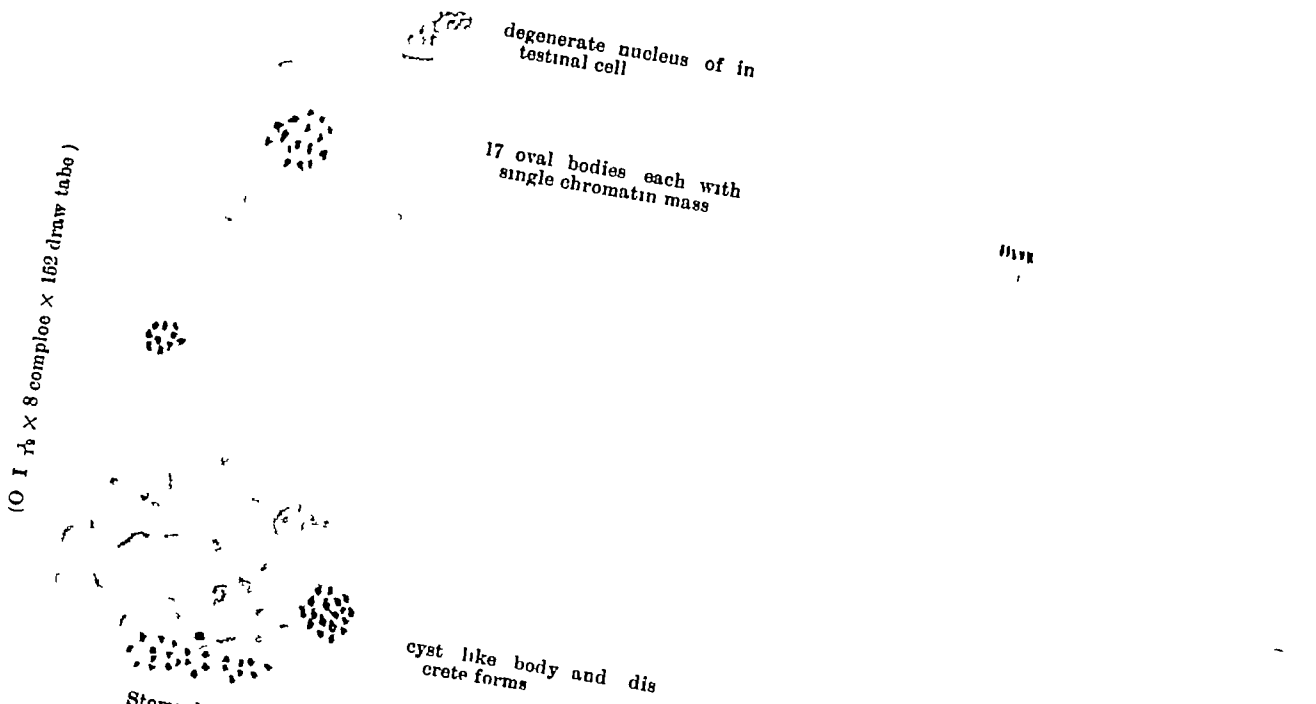
That cactin (Abbott) is non-poisonous is attested to by the fact that guinea-pigs will withstand 30 to 50 cactin granules administered per os or subcutaneously without the least effect Also rabbits, in like manner, will withstand 50 to 100 granules This simply means that a man could take any quantity I took 100 of these cactin granules, 25 at a dose every four hours without experiencing the least effect Being satisfied that cactin possessed none of the properties of an acute poison, I made a few experiments on dogs to see what influence it might exert on the circulation, using the methods generally followed in physiologic experiments

* From the Laboratory of Experimental Therapeutics University of Chicago

1 THE JOURNAL, 8 pt. 21 1907 p 1021

THE PROBLEM OF KALA-AZAR

By MAJOR F P MACKIE, I M S



(O I $\frac{1}{12}$ × 8 compoo × 152 draw tabe)

Stomach contents of Cimex taken from R A bed
Nowgong December 1921

MACKIE AND SWAMINATH
(*December* 12, 1921)

Bodies from salivary gland of Bug 9 taken from l
of R A case in Nowgong $\frac{1}{12}$ × 152 × 8 comp
ocular (draw tube)

zero and the respiration growing progressively slower and weaker In fact, instead of showing any stimulating effect on the heart, it showed the opposite—both the circulation and respiration were progressively weakened In this regard it differs from strychnin, and has no resemblance to the action of digitalis, strophanthus or any other of the known heart stimulants Just what is in this preparation that causes a depression of the circulation I do not know Figure 12 shows the effect exerted by 40 cactina pellets, twenty minutes after the last dose, or forty minutes after the first (20 pellets at a dose) This animal was used for another experiment and was living two hours after the administration of the cactina

Here again it might be said in regard to cactina, as has been said of cactin, physiologic experiment is wholly out of harmony with the clinical results published by the Sultan Drug Company In the light of my experiments all that can be said for either one or the other of these preparations (cactin [Abbott] cactina [Sultan Drug Co]) is Physiologically neither one corresponds in the slightest degree to the claims made by their respective exploiters, the former being absolutely inert in doses at least a thousand times greater than recommended, the latter in large doses (two or three hundred times the dose recommended) shows a depression of the circulation and respiration

The negative results recorded in this paper simply confirmed all previous pharmacologic work on *Cactus grandiflorus*, that is, no one has ever found it to possess any physiologic action whatsoever

A BREACH OF TRUST, THE PHYSICIAN'S USE OF SECRET REMEDIES *

JOHN B ROBERTS, M D
PHILADELPHIA

The trust and confidence in physicians shown by the public is phenomenal A woman will bring her baby to a doctor, whom she may never have seen before and permit him to prescribe for it, knowing that on his judgment, knowledge and care depends its very life Men and women of the highest culture and intellectual power will place their lives, save, their honor, dearer than life in the custody of an anesthetist and an operator of whom they know little Can a higher compliment be paid to a profession than this? It must be remembered that it is the knowledge that we are physicians which gives rise to this unusual faith in our integrity, our wisdom our skill None but the thoughtless doctor can fail to be thrilled when he realizes to what a pinnacle of virtue the repute of his calling has raised him Perhaps it is the familiarity of this attitude of the public which makes us a little dull in appreciating the responsibility which its docile trust imposes It at least must drive an honest man to a soul-stirring endeavor to play fair with his patients

While it is true that some essayists and novelists have occasionally written disparagingly of medical men it has as a rule been their foibles that have been smiled or ruled at rather than their altruism for their patients The words of thoughtful observers will seldom fail to confirm what I have said as to the prevalent opinion concerning physicians It therefore behooves the present generation of doctors to maintain the honor of medicine by justifying this trust in its votaries

Recent events in commercial and political life have exposed astonishing breaches of trust in high stations Lapses from the kind of integrity supposed to be general have shaken faith in insurance circles, in the transportation business and in financial enterprises The result has been economic distress and almost universal distrust

The primal duty of one who offers himself as a healer of the sick and injured is to know what he is doing He needs to use his mind to discover the cause of the illness and to apply his knowledge to furnishing the means of relief Hence, he must see to it that neither ignorance of medical progress, nor a mind befuddled with drugs, nor the secret composition of his remedies makes him unfit to be trusted with human life Such deficiencies on his part rob his clients of what they have a right to expect and lessen the honor in which the profession of medicine has long been held A man who puts an unknown dose of an unknown poison into the circulation of his trusting patient is worse than a quack He commits a breach of trust, as surely as the financier who fills his own pockets by selling worthless securities or the guardian who cheats his ward out of his patrimony

For a number of years the public respect for the medical profession has been in danger, because some credence has been given to rumors of secret division of fees, acceptance of bribes and other breaches of trust such as that under discussion My observation has proved that such practices are indulged in by those from whom the public has a right to expect better things

Sensational newspapers have disseminated the notion that physicians are willing to kill the sick deliberately, for whom they have no cure A recent novel by a woman of great ability seems to indicate that she believes that a trained nurse, who is sane, will murder a desperately ill patient entrusted to her care The insult to physicians and trained nurses conveyed in these publications is a result of some of our own misdoings The damage done to public confidence in these essentials of modern civilization by such opinions is, perhaps as widespread as the loss of financial stability due to recent knavery in business

The cure for the nostrum evil is the inculcation by medical teachers of the maxims of Hippocrates and their own discontinuance of prescribing secret preparations, the use of the Pharmacopeia as a text-book in medical schools, the immediate emptying of samples of secret nostrums into the sewers, a better education in therapeutics, and an insistence that the prescriber of secret nostrums is a dangerous quack, who commits an actual breach of trust

* Read Dec 3 1907 before the Philadelphia Branch of the American Pharmaceutical Society

Paraplegia Following Roentgen Treatment of Cancer—Martinis two patients had each a cancer in the chest wall and it retrogressed notably under the influence of Roentgen treatment As the tumor subsided signs of paraplegia became apparent and the patients succumbed from thirty to forty four days after the onset of the paraplegia It came on suddenly preceded by a severe radiodermatitis and the circumstances seem to exclude a possible direct action of the rays on the spinal cord Nothing was found at autopsy to indicate a metastatic affection of the spinal cord nor lesions of the vessels suggesting syphilitic infection, but merely a softening, a degeneration of the nerve substance Consequently he is inclined to ascribe the paraplegia to a myelitis of toxic origin His article was published in the two last numbers of the surgical section of the *Policlinico* for 1907

Mrs Adie and others of our small 'Enquiry' in Assam to forsake the artificial methods of the laboratory for work in the field and at the bedside

Mrs Adie's immediate success justified this attitude if it needs justification and Patton's rather harsh criticism of my "crude methods" in this direction in 1912-13 loses its sting, whilst his remark that "It is only to be expected that dissection of bugs fed in this way would be negative" is quite disproved

Attempts to prove insect transmission by animal experiments have been immensely complicated by the observations of Laveran, Franchini, Fantham Porter, and others who have shewn that *Leishmania*-like infections may be brought about in laboratory animals by injecting them with natural insect flagellates

This means that what we thought to be the final proof, namely the production of a kala-azar-like condition in an animal, is no longer to be considered as final but may represent merely a parasitisation by a presumably harmless *herpetomonad* The fact that the flagellates of a water scorpion can give rise to a *Leishmania*-like infection in mice, a parasite and host that would never come together under natural conditions, induces a complexity into the problem which at present seems insuperable

Fantham and Porter explain the paradox by suggesting that the natural flagellates of insects are all potential *Leishmanias* or "*Leishmanias* in the making as they express it, an explanation which does not make the problem any simpler to overcome Patton also considers that kala-azar may arise from the natural parasites of insects, an argument which weakens the position of the bug hypothesis in which natural parasites have not been found In his long and well-reasoned paper, which has just come whilst this is being written, (*I J Med Research* for Jan. 1922) he seems to have lost sight of, or to lay inadequate stress on, the fact that he and his assistants have performed the supreme experiment on bug transmission namely, the attempted infection of man

He writes that his assistant "like myself has never hesitated to feed large numbers of bugs heavily infected with *H donovani* on himself so that our results may be similar to what happens in nature" Fortunately for these intrepid investigators the results have not been similar to what they believe occurs in nature

This somewhat naïve admission seems to me greatly to weaken the evidence which has been so well mashalled by Patton in this paper

The Sand-fly—There are persons, myself amongst them, who consider that this insect has not received the attention which it deserves For years it has been believed on epidemiological grounds to transmit the other *Leishmanias* both of oriental sore and the American muco-cutaneous disease and very recently this has been definitely proved for oriental sore by the brothers Sergent and their associates (Mm Ed et Et Sergent, L Parrot, A Donatien, et M Beguet in No 21, Nov 21, 1921 *Comptes Rendus de l'Acadamie des Sciences*) They have shewn that *Phlebotomus papatasi* caught in an infected area and sent to a non-infected area three or four days journey away gave rise to oriental sore in a man after an incubation period of about three months This completes the proof as regards the transmission of one of the *Leishmanias*, the first to be so proved Now we know that protozoa of similar species or genus tend to be transmitted by similar species or genus of insect vector Take *malaria*, which is carried all over the world by species of *anopheles* all *piroplasmata* are carried by species of *ticks*, and most *trypanosome* diseases are carried by *tse-tse* flies, so that it would occasion no surprise if all *Leishmanias* were carried by the same species or genus of insect

Herpetomonas parasites have been described in sand-flies by Wenyon in an oriental sore country (Aleppo) and by me in a kala-azar locality (Assam) and the question now arises whether we were describing natural and harmless flagellates of the insects or whether they were not in reality a stage in the cycle of *Leishmania tropica* and *donovani* respectively

Laveran and Franchini have already succeeded in producing symptoms of kala-azar and of oriental sore in dogs and guinea-pigs by injecting into them the flagellates found in sand-flies, and *Leishmania*-like forms were found free and intracellular in the viscera of these animals after death

The sand-fly hypothesis is therefore in a strong position and I can only repeat what I wrote in 1913 that this insect requires the most careful study With this end in view I have begun some observations on this subject and have recently found one sand-fly very heavily infected with flagellates and also shewing a worm infestation The insect was taken by Mr Swaminath in a house in Nowgong where there was a case of kala-azar but when the fresh dissection was made the flagellates were not moving and so no animal experiment was done

Conorrhinus rubrofasciatus—This large reduvial bug has been suggested by Donovan as a possible carrier in Madras but Patton found that *Leishmania* did not develop in its alimentary canal after infected feeds Interest has been recently aroused in this insect by Awati finding it to be an inhabitant of a kala-azar house in Assam in small numbers It is well known to be a human blood-sucker and the American species (*C megistus*) has already been incriminated by Chagas as the carrier of his *Schizo-trypanosoma* in South America. It is apt to be infested in nature with a large crithidial parasite, so experiments as to its carrying power of *Leishmania* must be carried out with this in mind We have bred out some nymphs from adults supplied us by

"nostrum" in its relation to physicians, and it is a definition that is accepted by the public for the simple reason that the public believes that this is the present definition of the word by the average physician, whereas every intelligent physician knows that it is not The definition is this

Any preparation of which any physician does not know all the ingredients should be to him a nostrum It makes not a particle of difference whether it is called or adjudged a 'nostrum," or an "ethical," or a "non secret" If he does not know the ingredients contained in that preparation, it is unknown to *him* it is a secret to *him* and as such, it is a nostrum to *him*, and the lack of knowledge should prevent him from prescribing that preparation until he does find out by personal analysis, by personal investigation, or by authoritative information through channels that are open to every physician, exactly what is in the medicine In other words, a physician ought to know what is in a medicine that he prescribes, if not he is prescribing a 'nostrum" because to him it is an unknown preparation There can be no compromise here, no middle ground regarding the only attitude that is at all scientific and honorable, either a physician knows, or he does not know

When that simple and honorable standard of prescription among physicians shall prevail, it will no longer be possible for a physician of unquestioned standing to write to me and say that he prescribes "non secretives" but not "nostrums," and then, when I look up his prescriptions to find he has called for such preparations as Thermol, Bromidia, Nutritive Elixir, Phenalgin, and the like!

The trouble in this whole discussion, so far as the relation of the nostrum to the physician is concerned, is that too much time has been taken up with an attempt at proper classification of preparations, and not enough emphasis placed on the physician's individual conscience There is only one question that the physician should settle 'Do I know what I am prescribing?" If he does know he is within his rights as an honorable practitioner, if he does not know, he is not This whole discussion has centered too much on the drug, whereas it should be centered on the man, his conscience, his knowledge

But this knowledge the average physician has not And I have not the slightest hesitation in including in this statement the great majority of physicians Medical ethics have, indeed, reached a low ebb when pharmacists find it necessary to inaugurate such a movement as was recently set on foot in New York City to check the sale of nostrums by dissuading the physicians from prescribing them and to insist on a recognition of the U S Pharmacopeia as the standard of meritorious drugs "Why come to me and ask me to stop selling these 'patent medicines'?" said a druggist to me recently 'Stop the physicians from prescribing them and then we won't have to carry them Look at this sort of prescription" and he handed me six prescriptions calling for Radam's Microbe Killer Phenol Sodique Beefine Bromo Quinin, and hers" he concluded is a prescription for a particular brand of so called tasteless 'Cod Liver Oil' that every druggist knows is a pure fraud which I do not even carry, yet I have to go out and get it to fill this prescription, or else be charged with substitution, or with meddling with the physician's prerogative"

III

Now what is the public attitude to what has been going on in this question of physicians prescribing preparations of which they do not know the ingredients? For the public has its knowledge and is rapidly shaping a definite attitude

During the past five years I have been in a position peculiarly favorable for securing a fairly accurate idea of the attitude of a large part of the great lay public to the medical profession Hundreds yes thousands of letters have come to me and in all of them there has been shown a tendency to question the methods of the average practitioner This has been particularly true of the last two years and I have seen this tendency steadily grow from a mental attitude of questioning, or an indefinite feeling first, of disquietude, then unrest, and, finally, of distrust of medical methods With the public mind disturbed and upset on self medication, it has turned with a peculiar analytical attitude toward the profession that has been instilling into it for years the great danger of taking medicines of unknown composition And what has a part of this public found? This same profession practicing exactly the very evil which it has so unstintingly denounced as injurious and pernicious!

Now, one important fact must not be lost sight of in the attitude of the lay public to the physician The time was when the layman approached the "medicine man" with awe, with an obeisance that acknowledged in him a superiority as a man possessed of some mysterious, occult power of healing But that day is over, that time has gone by Your layman of to day is more intelligent, he is doing more of his own thinking, no one man possesses any magic power in his mind any more The position of the physician in his relation to the layman has not only changed, but is changing and will change even more in the future He is no longer, in the layman's eyes, the court of last resort on human health To the layman have, here and there, come drippings of little leaks in the physician's knowledge, and latterly there have come to him a number of these drippings in the form of instances that the physician, in a number of cases, does not always know what he is prescribing And he repeated these instances to others, and they, in turn, to others, and from a state of wonderment he began to ask, and, finally, he picked up his pen and wrote to those who he thought would tell him frankly, and asked, "Is this true? We are putting the lives of our loved ones into the hands of these men, and we want to know" And then later still the questions changed in tenor and they said, "We have a right to know" And, pray, what was the honest answer to give?

I ask every intelligent physician this question Suppose the present tendency to investigation should turn itself on the medical profession and its methods? What kind of revelations would come to the public? What would the public think of the scores and hundreds of instances of densely ignorant, unintelligent and criminally careless prescription writing of which the physicians of to day have been guilty?

Fancy a physician of undoubted standing holding forth, to my utter amazement, before a clinic only a few weeks ago, on the efficacy of a certain preparation which a special report of the Council of Pharmacy and Chemistry, published in this journal, showed had been investigated and decreed as being "perfectly worthless," and then expressing surprise when I brought him the publication! What in the world can we expect of our younger physicians if men whom the young look up to, and have a right to look up to, advise them of a preparation of the ingredients of which they are absolutely ignorant?

The whole matter resolves itself into this There must come, and come soon, a distinct and sweeping reform from within the medical profession as to the present unintelligent method of prescribing That there is prevalent to day among physicians of all ranks a degeneration in scientific prescribing, of the true science of therapeutics, is not a question for argument It exists and widely so It is useless to deny it It is a waste of time for one class of physicians to accuse another and to absolve themselves It is a significant fact that, while scores of letters of denials of this practice have come to me from physicians, I have still to receive the first denial of the practice from a pharmacist, on the contrary, I have received scores of letters from pharmacists endorsing my statements Besides all that, I have seen too many prescriptions myself, I have too many in my possession either to differentiate one class of physicians from another, or to have the slightest fear of a successful challenge of my statements The ground under my feet is too secure for me to have the slightest hesitation in saying, firmly and positively, that, excepting a very small minority of conscientious and honorable physicians, the average practitioner of to day has become a dependent on ready made, hand me down preparations which he is prescribing to his patients without an accurate, personal knowledge of what he is prescribing This statement admits of no doubt, I know it,

Shillong that by culturing the peripheral blood or the spleen juice many of such cases harbour living *Leishmania*

The following is a list of such cases The clinical side of this investigation was done by S A S Hari Charan Patni and the laboratory work by S A S Biraj Mohan Das Gupta, both under my supervision

Number	Age	Amount of antimony in c.c of 1 per cent solution	Result of cultures from spleen juice positive
1	23	212	*
6	10	95	
7	16	204	*
8	18	230	*
12	18	205	*
13	24	166	*
14	10	375 (—10 months)	*
15	34	300	*
17	24	196	*
18	32	200	*
22	24	385	*

Nos 14 and 22 must be considered as quite refractory The former is clinically uncured, the latter appears to be quite cured notwithstanding the fact that he is carrying living *Leishmania*

* Indicates that *Leishmania* were found microscopically as well as on culture All the cases were proved originally to be infected with *Leishmania*, mostly by blood culture

This incomplete cure by antimony is a real danger because the patient, having gone through the prescribed course of treatment in a Government hospital, believes himself to be cured and is received back by his friends, it may be into close contact with a house full of children towards whom he may act as a carrier Sooner or later he frequently relapses and all his symptoms returns

Recently I went to Salona to enquire into this question in cases under the care of Dr Dodds Price than whom no more capable, painstaking or experienced authority on kala-azar exists

Out of 144 cases which had been through a course of antimony and appeared in good health four were found to be carrying parasites in their spleens as revealed by microscopic or cultural examination But for the contamination of many of the cultures under camp conditions the numbers might have been larger

These four cases had received 1 3, 2 3, 1 8, and 3 4 grammes of sodium antimony tartrate respectively and some of them were children and therefore should require smaller doses than adults All this goes to shew that the generally accepted course of two grammes of antimony for an adult is in many cases insufficient to ensure sterilisation , and the accepted criteria of cure are misleading The only reliable test is the cultivation on N N N medium of the peripheral blood or better of the spleen juice, otherwise instead of stamping out the disease by treatment, we are converting the patients into chronic carriers

This question and the important one of the severe toxic effects produced by antimony in some cases has been dealt with by me elsewhere (*British Medical Journal*, in press)

THE CAUSATION OF EPIDEMIC DROPSY

By HUGH W ACTON,

MAJOR, I M S,

Professor of Pathology School of Tropical Medicine and Hygiene Calcutta

IN a previous paper on the causation of lathyrism (I M G, July, 1922) I pointed out the possibility of this disease being due to an amine in kesari dâl Since then we have progressed still further in our knowledge We found that the large grain kesari with thin husks known as lakh germinated in twenty-four hours, whilst the small grain with thick husks, did not sprout after four days' soaking in water During the germination process, more than twice the amount of amine was produced in the large grained variety as in the smaller non-germinating dâl This explains why the large grained lakh is popularly regarded as being more poisonous than the smaller lakhari dâl, whilst the high incidence of the disease during the months of July to September is due to the heat and humidity of these monsoon months causing the grain to germinate more readily Further the toxic amine isolated from germinating grain caused paralysis in mice Lathyrism is therefore a chronic amine poisoning similar to ergotism, in the former the toxic amine is produced during germinating, and in the latter produced by *Claviceps purpurea* Both diseases are conditioned by economic stress because people will not eat either of the grains, unless compelled to do so by famine

Epidemic dropsy is a disease characterised by localised oedemas chiefly affecting the lower extremities and not associated with signs of peripheral neuritis, thus differentiating it from beri-beri Col Megaw, I M S, Director of this School has for many years been interested in this disease and commenced an investigation into its causation Before going to England on leave he deputed me to carry on the investigation Owing to the generosity of F M Kanga, Esq, of Bombay who gave the school a donation towards these researches we were able to employ a part time medical officer to collect certain ætiological data —an excellent example of disinterested generosity, as Mr Kanga allowed us to utilise his grant to investigate a disease that is almost peculiar to Bengal The School gratefully recognises the value of his example, and looks to the numerous wealthy Indians that live in this city to help with grants to solve the prevention and treatment of the many diseases

tion in the eye would be followed by general hypersusceptibility, manifested by a reaction to the subcutaneous injection of tuberculin

Physicians must be cautious not to condemn the tuberculin of one manufacturer, if it gives a negative result, though a second application of tuberculin of another make proves positive when instilled into the same eye In fact, we were partly led to make these experiments from the remark of a clinician who blamed the first tuberculin he used, while tuberculin of a different make used two weeks later gave a sharp reaction Of course the diagnostic value of the reaction in an eye that has had a prior treatment some days before is entirely negative

The power of tuberculin to sensitize the conjunctiva is a beautiful example of the usefulness of the state of anaphylaxis The conjunctiva or any other tissue in such a condition of hypersusceptibility is armored against bacterial invasion. Thus, if a tubercle bacillus lodges on a tissue having the power to react at once, that tubercle bacillus would immediately be surrounded with the protecting humors and cells of the body In other words, the natural immunizing agencies of the body would at once be concentrated on the spot where they are most needed

AN APPARATUS FOR THE INTERMITTENT POSTOPERATIVE DRAINAGE OF THE BLADDER

APPLICATION OF THE PRINCIPLE TO THE DRAINAGE OF EMPYEMATA, ETC

A J A HAMILTON, M.D
Senior House Surgeon Carney Hospital
BOSTON

The satisfactory postoperative drainage of the bladder has always been a most perplexing problem Satisfactory drainage after cystostomy, for instance, drainage that is effectual and allows the patient to be kept dry is manifestly a most important factor in the attainment of a speedy, comfortable convalescence The trouble arising from plugged tubes and catheters, and the discomforts endured by a patient constantly soaked in urine are such that life becomes burdensome to the patient and bothersome to surgeons, house officers and attendants

Intimate contact with a number of cases in which drainage was attempted with indifferent success led me to undertake experiments which finally resulted in devising the apparatus herein described It has been used with satisfactory results in drainage of the bladder after both suprapubic and perineal cystostomy and in the postoperative drainage of empyemata Through the courtesy of Drs Munro and Bottomley the suitable material in the surgical wards of the Carney Hospital was placed at my disposal

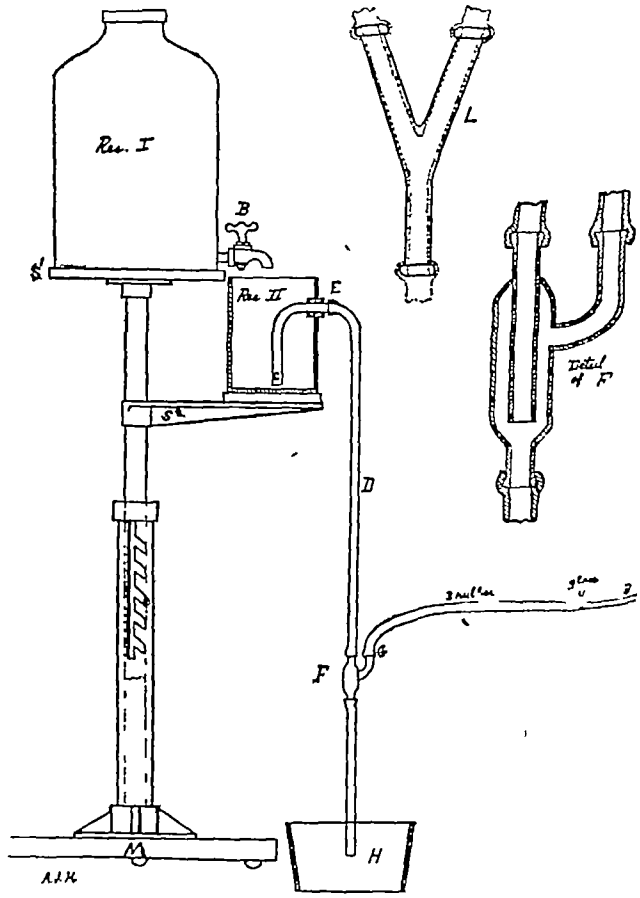
DESCRIPTION OF THE APPARATUS

A glass reservoir (Res I) with a capacity of about two gallons (i e a sufficient supply to last several hours) is placed on a horizontal shelf (S^1) supported by an adjustable standard (A) on a movable base (M) Projecting from the standard is a second shelf (S^2) for the support of a second and smaller (capacity, one pint) reservoir (Res II) into which the larger reservoir feeds at a rate which can be regulated by an adjustable cock (B) Through a perforated cork in an opening from 1½ to 2 inches from the top of Reservoir II passes a bent glass tube (C) one end of which should be close to the bottom of the reservoir, and which forms the short arm of a siphon the long arm of which is the rubber tube (D) attached to the bent glass tube at E, the lower end of the rubber tube (D) joins with a hydraulic pump (F) placed below the level of the cavity to be drained and connected with it by a rubber glass connection (3, 4, 3) The pump empties into a receptacle (H) beneath the bed The caliber of tube G should not be larger than that of tube D

As a substitute for the hydraulic pump a glass Y tube (L) may be used, but it does not work so satisfactorily

THE WORKING OF THE APPARATUS

Reservoir I is filled with water The outflow into Reservoir II is regulated according to the quantity of discharge to be removed from the cavity which is to be drained It is evident that the greater is the outflow from Reservoir I to Reservoir 2, the sooner will the latter be filled to the level of the perforated cork which allows the water to run down the tube D into the hydraulic pump which is thus put in action and drains the cavity by virtue of a well known principle of physics In other words, the greater the outflow from Reservoir I to Reservoir II,



Res I glass reservoir with capacity of about 2 gallons res II reservoir with capacity of about 1 pint S^1 horizontal shelf A movable base S second shelf for support of reservoir II B adjustable stop cock C bent glass tube D rubber tube forming long arm of siphon E junction of D with bent glass tube F hydraulic pump H receptacle into which pump empties L glass Y tube which may be used as a substitute for the hydraulic pump, G connection of drainage tube to hydraulic pump

the oftener will the latter be emptied by siphonage the oftener will the pump work, and the oftener will the bladder or other cavity be drained The frequency of the action of the pump is to be regulated according to the amount of urine or other secretion to be removed

ADVANTAGES OF THE USE OF THE APPARATUS

After either suprapubic or perineal prostatectomy the apparatus may be connected with the cavity either through the suprapubic or the perineal wound, as the case may be A brief experience will soon teach one how

Kher The Hindu widows cannot eat any food cooked by other hands, so the rice is not par-boiled The final polishing of the rice removes almost the whole of the aleurone layer with some of the neighbouring starch cells and most of the germ This exposes the fruit to invasion by bacteria and fungi, and hastens the seasoning of the rice Seasoning is not the only factor, as old rice is eaten all the year round and yet only a few cases occur in non-epidemic years

(5) *The economic factor* Greig showed that epidemics were likely to occur when food prices had been at a high level for two years consecutively As soon as food prices fell the epidemic subsided as the result of the fall in prices The first point is that seasoned rice takes one year's storage in order to get its full flavour and digestibility As soon as prices rise the grain supplies are conserved in the warehouse often in damp warm godowns During the warm moist months of the monsoon July to September whatever changes that are occurring in the grain must be accelerated by this temperature The more digestible proteids are split up further into polypeptides amino acids etc The latter are in turn still further reduced to toxic amines In a house where several cases of epidemic dropsy occurred the rice had a faint greenish tinge and smelt musty Microscopically a *septate mycelium* was found, and chemically this rice contained a large amount of amines This part of the work is still in the experimental stage We want to work out the amine of kesari dâl before proceeding any further with a fresh investigation In March with the advent of the winter rice in the market the epidemic subsides

Conclusions

(I) The disease affects the Bengali Hindu community, whose diet consists mainly of rice

(II) The age incidence shows that the disease is dependent on the quantity of rice consumed by an individual

(III) The peculiar distribution amongst the middle class Bengali Hindus, whose main article of diet consists of seasoned rice, indicates that the poison is formed during the seasoning process

(IV) The seasoning is probably due to bacterial invasion of the fruit, and is more apt to occur in polished rice, where the fruit is injured during the milling, and during the monsoon months owing to temperature and humidity

(V) The high price of food-stuffs leads to hoarding of the rice in hot, damp godowns, when the decomposition products are allowed to go still further, and give rise to toxic bodies

The ætiological evidence distinctly incriminates seasoned rice which if allowed to over-ripen gives rise to certain poisons causing epidemic dropsy The cause and prevention of the disease are obvious, *viz*, the elimination of seasoned rice from the diet The reason for this preliminary publication is the fact that several cases have recently been reported already, and the practitioners in this city require to know what advice they should give to their patients as regards treatment and prevention Speculations as to the nature of the toxin etc, are premature, but the evidence is definite that it is found in over-seasoned rice

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SURGICAL ASPECTS OF AMŒBIASIS

By K. K. CHATTERJI, F.R.C.S.I.

A Lecture delivered at the School of Tropical Medicine and Hygiene, Calcutta

Amœbæ their character and pathogenicity

In order to study the surgical aspects of amœbiasis it may be useful to consider the characters and pathogenicity of amœbæ The amœbæ belong to the class "Rhizopoda" and order "Amœbina" It will hardly be profitable to enter into the consideration of the various names that have been applied from time to time to the varieties and subvarieties of *Entamœbæ, viz —Entamœba coli, Entamœba blattæ, butschlii* etc

G C Chatterjee described an atypical amœba which causes dysenteric lesions He calls it *Entamœba paradysenterica*

We will, however, content ourselves by designating the type of amœba with which we have to deal, *Entamœba histolytica*

The morphological characters of *Entamœba histolytica* are well known It can be differentiated from *Entamœba coli* by the following characters —

E histolytica	*E coli*
Actively motile	Sluggish movement
Hyaline in appearance	Less hyaline
Feebly refractile	Highly refractile
Indistinct excentric nucleus with scanty chromatin	Distinct nucleus with abundant chromatin
Marked differentiation between ectoplasm and endoplasm.	No distinction between granular endoplasm and refractile ectoplasm
Encystment with four nuclei	Encystment with eight nuclei
Cyst with elongated chromidial bodies	Cyst with no chromidial bodies

Von Schuckmann was successful in isolating 6 strains of amœbæ from hay and straw which grew in agar The concensus of opinion at present is that cultural amœbæ have no pathogenic relation to man. Animal experiments on kittens with *E coli* have failed to produce dysenteric symptoms, but similar experiments with material containing pathogenic amœbæ produced typical dysenteric lesions Similarly Walker and Sellards failed to produce experimental dysentery with *E coli*

Vegetative amœbæ undergo disintegration early in fæces after the stool is passed, and the

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[For other information see second page following reading matter]

SATURDAY, MARCH 21, 1908

THE PATHOGENY OF SPASTIC RIGIDITY IN CHILDHOOD

There occur during childhood a number of disorders of motility attended especially with spasticity, of some of which the anatomic basis has been made clear, while the origin of others is still involved in obscurity One of the most interesting of this group of affections is tetany, which appears to be much less common in the United States than in certain parts of the continent of Europe There is some reason for believing that a variety of conditions have been comprised under this designation so that we may be dealing with a symptomatic manifestation rather than a definite clinical entity

The entire subject is given most thorough discussion in an admirable paper by Archambault and Baldauf,[1] who report two cases originally thought to be examples of tetany, but one of which was later found to be an instance of cerebral diplegia due to cerebral sclerosis, and the other an instance of chronic internal hydrocephalus due to cerebral tumor In both cases there were present after death, in addition, marked thickening of the walls, more especially of the medium-sized and smaller blood vessels of parts of the cerebrospinal nervous system, partial fibrous obliteration of a few, cellular occlusion or thrombosis of many of them, perivascular dilatation and evidence of chronic fibrous leptomeningitis and ependymitis, marked thickening of the subpial and periependymal layers of neuroglia, together with various types of cellular degeneration From their own observations in conjunction with a study of the literature of the subject Archambault and Baldauf are of the opinion that a large number of toxic substances, of varied nature and origin, are capable of causing cellular and interstitial changes in the parenchyma of the central nervous system and many of them are capable of giving rise further to tetany of more or less complete type Such association however, is not invariable depending on the intensity and duration of the irritative process and on the susceptibility or resistance of the individual

It is thought probable that tetany possesses no characteristic anatomic substratum, the lesions that have been regarded as pathognomonic of it merely representing the reaction of nervous parenchyma to the irritating influence of an existing toxemia The changes in the nervous system may take place without the development of tetany, while on the other hand tetany may be present without the discovery of any appreciable alteration in the central gray matter Spastic rigidity, whether symptomatic of some well-defined nervous disorder or appearing as an isolated clinical manifestation, is looked on as the result of vitiated or disordered innervation of, or impulse-transmission to, the peripheral motor neuron, which may be dependent on either irritation or partial destruction of the central motor neuron in any part of its course from the Rolandic cortex to its point of arborization about the multipolar nerve-cells of the anterior horns of the spinal cord, or on inhibition or loss of function of the co-ordinating centers of the spinal cord in the intermediate gray matter Extramedullary or meningeal lesions under certain circumstances, may disturb the normal transmission of impulses sufficiently to bring about the same phenomenon Spastic rigidity may be marked or slight, with all intermediate degrees of severity, and it may be either continuous or paroxysmal, in proportion to the intensity and extent of the underlying lesions Spastic manifestations may result not alone from disease of the meninges, but also from that of the gray matter surrounding the aqueduct of Sylvius, the cavity of the fourth ventricle and the central canal of the spinal cord Internal hydrocephalus unapparent or inappreciable clinically, is not particularly uncommon in infants and young children The diagnosis is difficult and the presence of changes in the optic nerve, and often of local manifestations as well, suggest the existence of cerebral tumor

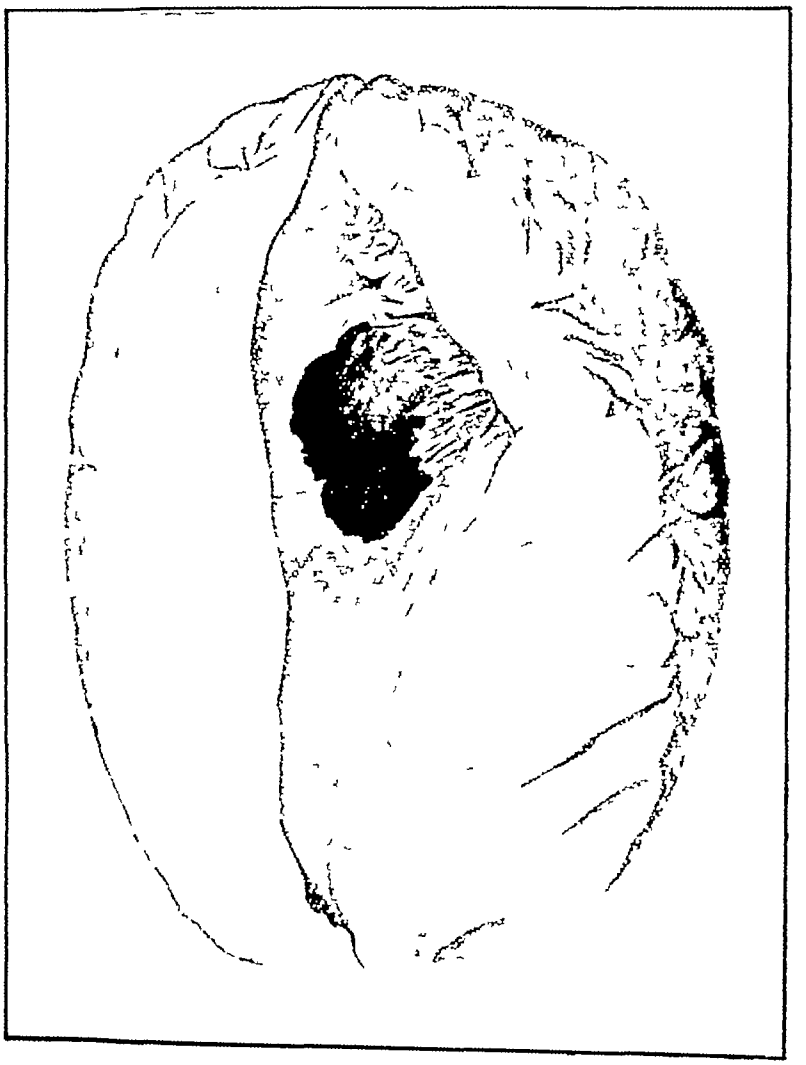
1 Archiv f d. Ges Jan 1908 p 81

THE DECREASE OF TUBERCULOSIS

Several years ago Dr T Bulstrode, one of Great Britain's medical inspectors, wrote concerning consumption "The object of preventive medicine is to curtail and, if possible, to prevent disease, to prolong existence and to render life happier by means of improved physical conditions' To-day it would seem that the ideal thus set is steadily nearing realization Dr Bulstrode, in the territory over which he has had supervision has given evidence of such advance, as may be judged from the recent important report by the medical department of the British Local Government Board The statistics presented show an amazing decrease in the death rate from tuberculosis in England and Wales, and they form the basis of an opinion that possibly, within the lives of those now living, this disease may become as rare as leprosy and typhus fever are to-day In 1838 tuberculosis destroyed in England and Wales 59,025 lives, in 1906, although the population within these boundaries had greatly increased, this disease destroyed only 39,746 lives—11 5 for each 10,000 persons then living The tuberculosis mortality in 1906 was about equal to the decrease observed in the preceding thirty years, it would follow, therefore that the disease should disappear totally within the coming three or four

SURGICAL ASPECTS OF AMŒBIASIS

By Dr K K CHATTERJI, F R C S I



Amœbic Abscess of the Brain

week. As Dr. Smith says, "It is far easier to arouse the nervousness of the public than to allay it," and in actual experience there is little question that the remote results of each accident of immunization and serum therapy have been much more serious than the particular individual fatality it may have caused. How constantly we still hear urged against vaccination the danger of syphilization, in spite of the fact that human vaccine virus has been in almost absolute disuse for many years. For how many decades will that early German fatality from diphtheria antitoxin be brought forward as an obstacle to stand in the way of life-saving efforts?

At present the chief danger that is apparent in all the biologic products is tetanus, which has appeared as a danger not only in the use of immune sera and vaccination, but also in every subcutaneous use of animal products, as was shown by the numerous fatalities that resulted from the use of gelatin as a hemostatic. There is also reason to apprehend danger of the same kind in the new use of bacterial products in therapy—the so-called "vaccine therapy." Of course the reason for this danger from tetanus lies in the great resistance which the spores of the tetanus bacillus have to heat and to antiseptics, so that they readily pass through ordinary sterilizing processes, and, retaining their vitality for an almost indefinite period, cause their fatal effects at the first suitable opportunity. In his valuable paper Dr. Smith points out serious and widespread misunderstandings concerning the resistance of tetanus spores to heat, which misunderstandings constitute perhaps the greatest danger now existing in the preparation of biologic products. This paper should help to dispel this error and remove a very great and very real source of danger. Dr. Smith's closing remarks are so appropriate, and carry a lesson that is so seriously needed, that we quote them here for the sake of emphasis. "Whenever practice outruns the laboratory, and, more or less impatient, applies the latter's results to the prevention and cure of the disease it frequently deals with half truths whose application may be harmful. It is this sense of being surrounded with half truths which should stimulate us all not to rest content with them, but to use our efforts unremittingly until they have been made whole."

CARCINOMA FROM ROENTGEN RAY BURNS

In the obituary column[1] we refer to the death of another *x*-ray worker, Dr. R. V. Wagner, of Chicago, from secondary carcinoma beginning in the skin, the sort of chronic *x*-ray dermatitis. The number of fatalities of this sort is now large and it furnishes a pitiful tribute to the enthusiasm of the early worker in this fascinating field. The train of events in these cases is extremely interesting and throws light on the pathogenesis of carcinoma, at least as it occurs in the skin. All these cases, so far as we know, have occurred in radiologists who began the work in the early days before the dangers of the Roentgen rays were fully recognized. All the individuals were victims of long-continued low-grade *x*-ray dermatitis, kept up by persistent exposure to the rays in spite of the skin lesions. In many cases there has been a primary acute burn, in others only the subacute reaction, but in all there has resulted the chronic atrophic dermatitis which we have now learned is characteristic. In these cases the skin becomes thin, harsh and cracked, its surface reddened by lines and clusters of dilated capillaries and roughened by keratoses, the latter being the danger spots in which epitheliomata develop. The whole condition is, in fact, an exaggerated picture of the senile skin of the type in which we see epitheliomata, often multiple, develop. Indeed, so close is this resemblance that the development of epitheliomata in chronic *x*-ray burns was prophesied before their occurrence was established.[2]

There is probably a close essential resemblance between the precancerous keratoses of old age and those of chronic *x*-ray dermatitis. As Hyde[3] has strongly emphasized, there is a striking relation between the vulnerability of the skin to light and the occurrence of epidermal cancer. The most extreme illustration of cutaneous irritability to light is seen in the families with xeroderma pigmentosum. Here the exposed parts manifest all the changes of the most extreme degrees of senile skin in early childhood, epitheliomata develop and the patients die of carcinoma while still children. It is probable that the type of senile skin, filled with telangiectases and dotted with keratoses, in which epitheliomata develop, is largely an expression of the irritating effect of the actinic rays of light acting over long periods of years on skin which is inherently susceptible to this form of irritation. The notable absence of epithelioma in the negro whose skin is protected from the effects of light by a thick layer of pigment is confirmatory of this view. In the precancerous keratoses of old age and of xeroderma pigmentosum, and in those of chronic *x*-ray dermatitis, the results are the same, the only difference is that in the one case the irritating agent is light, in the other *x*-rays, which from their vastly more powerful actinic properties may produce in a short time the condition which light produces to a less degree (except in the rare cases of xeroderma pigmentosum) only after many years. Another evidence indicating that the epitheliomata from Roentgen rays do not differ from the usual senile epitheliomata is found in the fact that even such lesions may themselves be destroyed by *x*-rays. How actinic energy produces these changes we can only speculate. We know that cutaneous epithelium is distinctly irritable under actinic energy, and it is probable that in epitheliomata developing from the effects of light and the Roentgen rays we have merely one of the illustrations of the well-

1 Page 983 of this issue.

2. Pusey and Caldwell: First Edition, p. 230.
3. Influence of Light in the Production of Cancer of the Skin, Am. Jour. Med. Sci., January, 1906.

Surgical conditions produced by amœbic infection —

1 Amœbic recto-colitis (amœbic dysentery)
2 Amœbic pericolitis, pericolic and pericæcal abscesses and bands and adhesions, perinephric abscesses
3 Amœbic appendicitis
4 Amœbic hepatitis and perihepatitis
5 Amœbic cholecystitis and pericholecystitis
6 Amœbic splenitis and perisplenitis and splenic abscesses
7 Amœbic arthritis and synovitis
8 Amœbic encephalitis and abscesses in the brain
9 Amœbic dermatitis and abscesses (cutaneous amœbiasis)

I Amœbic recto-colitis (amœbic dysentery)

Catarrhal inflammation or an ulcerative process in the colon and rectum due to amœbic infections may be of acute or chronic form In some of the acute forms all the coats of the intestine may be eroded including the peritoneal coat that is, without necessarily causing perforation These cases yield readily to emetine and ipecacuanha treatment, surgical interference being rarely indicated In chronic cases the bowels can be irrigated per rectum or through an apendicostomy or colostomy opening The solutions used are quinine bisulphate 1 in 1,000, potassium permanganate 5 grains to the pint, normal saline solution, and collargol solution 1 in 500

II Pericolitis, pericolic bands, adhesions, and abscesses

The primary lesion in the colon caused by the entamœbæ is in the submucous coat and according to the acuteness of infection they may penetrate the muscular coat and eventually the peritoneal coat giving rise to exudation of lymph The amœbæ may escape through the stomata of the peritoneum giving rise to extraperitoneal exudation Then again the ulcer may work through the peritoneal coat by small openings and form a collection in a space shut up by adhesions This effusion becomes purulent, resulting in pericolic abscesses Such an abscess may form *in situ* or behind the cæcum or colon (post-cæcal or retrocolic) or it may travel along the line of least anatomical resistance and may become lumbar, subhepatic, subphrenic and perinephric abscesses The bands and adhesions may give rise to intestinal obstruction.

III Amœbic appendicitis

In cases with symptoms of appendicitis preceded by a history of dysentery, the question of the possibility of amœbic appendicitis should be considered If it is a case of amœbic ulceration of the walls of the appendix—emetine and ipecac treatment may effect a cure, if however, the ulceration has run deeper and there is perforation of the wall, the case should be treated as one of perforative appendicitis

IV Amœbic hepatitis and perihepatitis

The liver plays an important role in digestion, and excretion, and in the maintenance of metabolic equilibrium Any disturbance in its physiological co-relation with other organs will necessarily lead to grave local and constitutional disturbances It has important anatomical relations with internal organs and structures The falciform or suspensory ligament of the liver divides the subphrenic space into two compartments, the right and left subphrenic spaces The costophrenic space in the normal condition is a potential space

Mode of infection Amœbic infection of the liver takes place by means of the portal system, the lymphatic channel, and by local extension, *e g*, from pericolic and perinephric abscesses

Portal infection The amœbæ being carried by the minute terminals of mesenteric veins through the portal vein to the liver set up a process of pylephlebitis and periphlebitis This interferes with the circulation, resulting in necrosis and disintegration of liver tissue These abscesses are generally parenchymatous although they may be subcapsular in origin

Lymphatic infections The lymphatics of the colon drain into lumbar and *preaortic glands* which are connected through the cœliac and hepatic chains of glands to the subhepatic area The lymphatics of the suprahepatic area are connected with lumbar glands draining the colonic area

THE ABSCESS

Character of the pus—The pus has certain characteristics Besides pus cells it contains degenerated liver tissue, endothelial cells, red and white corpuscles, hæmatoidin, cholesterin and Charcot-Leyden crystals It is generally of a thick consistency, almost creamy and has an anchovy sauce colour Opinion is divided as to whether the pus is sterile or not In a large percentage of cases cultural methods yield negative results and amœbæ have been inconstantly found in a small percentage of cases (Kartulis, Councilman, Lafleur) The possibilities of pyogenic infection can hardly be ignored, in view of the fact that while the amœbæ travel from the intestines to the liver the whole host of intestinal flora could have either preceded, accompanied or followed them Besides, there is no reason why there should not be some form of hæmatogenous infection

Location of the abscess—Abscesses may be parenchymatous, perihepatic and subcapsular in situation

1 Parenchymatous abscesses may be situated centrally (central parenchymatous) and peripherally (peripheral parenchymatous) Roger's and Charles' statistics record a percentage of 85 in the right lobe, and 15 in the left and my statistics correspond to theirs This is explained by the following facts —(*a*) the right lobe receives the portal blood more directly by the superior mesenteric veins, (*b*) it receives a large quantity of portal blood, (*c*) it has a contiguity to the hepatic flexture of the colon and (*d*) the collecting lymphatic trunk of the right lobe has a more

bers, with their positions It is well worth the while for physicians to ponder over what it really means to have such a body of men represent them in this important work

Another important step forward is the creation of the Staff of Clinical Consultants, also mentioned elsewhere in connection with the above The function of the Council is not to decide on the therapeutic value of a preparation, but on its composition, to answer the questions What is it? Is it what it is claimed to be? Only when the statements made by the proprietor regarding the therapeutic properties of his product have been evidently at variance with accepted facts has the Council taken any cognizance of them But such statements are made frequently, so that the need of the advice and assistance of clinicians has often been felt, and while hitherto there has been no great difficulty in obtaining such assistance from individual physicians, the desirability of forming such a consultative body—one to which the Council can turn freely at any time—has made itself more and more evident

Here again the profession is to be congratulated on the selections made and especially on the fact that men who are busily engaged in active practice should be willing to make sacrifices for the common good It will be noticed that on the staff of clinical consultants are to be found the general practitioner—both the country doctor and the city man—the consultant and the specialist, also that every part of the country is represented If we are not mistaken, the creation of this body is the entering wedge of a movement for a more scientific investigation of the therapeutic value of drugs of all kinds, that will result, among other things, in eliminating not a few of those now in the Pharmacopeia, and in reaching definite conclusions as to the therapeutic value of this or that drug This, however, is for the future

Once again, we repeat, since all the members of the Council on Pharmacy and Chemistry, as well as those of the new Staff of Clinical Consultants, are men busily engaged in active work, since the work they do on the Council is often most perplexing, arduous and difficult, and since it is done gratuitously and solely in the interest of scientific medicine, is it too much of a request to ask for them the hearty support of every member of the medical profession? We can not think so! We further suggest that there are two ways in which practical support can be rendered One by refusing to prescribe any proprietary remedy that has not been accepted by the Council, the other by refusing to subscribe to or to encourage any medical journal that is advertising proprietary preparations that have not been passed on by the Council Even the former alone will be very effective and possibly we are presumptuous in suggesting the latter

Our readers, of course, know that there are still several pharmaceutical manufacturers who refuse to recognize the Council's work and objects, and this will continue just so long as physicians remain lukewarm in the matter

THE KENTUCKY PURE FOOD LAW

In another department[1] appears an abstract of the pure food and drug law recently enacted in Kentucky The law is the result of the combined efforts of the members of the Kentucky State Medical Association, the State Board of Health, the State Pharmaceutical Association, and the Board of Pharmacy Much credit is also due to the chief of the State Agricultural Experiment Station In securing its passage all the influential bodies in the state that could possibly be aroused, including the State Federation of Women's Clubs, were interested Besides being, perhaps, the best general pure food and drug law as yet adopted, some unique features are incorporated in the act In regulating the inspection and sale of milk it is provided that no milk shall be designated as "certified milk" except on the authorization of a regularly constituted county medical society This feature is the result of the work of the Milk Commission of the Jefferson County Medical Society, which took up the regulation of the milk supply of Louisville The prompt recognition of the value of such services is a gratifying evidence of the spirit in which the public will endorse the work of county medical societies along practical lines The law also provides that no physician's prescription may be refilled except for the person for whom it was written The value of such a provision for the protection of public health is obvious The enforcement of the law is placed in the hands of the chief of the State Agricultural Experiment Station Great credit is due not only to the physicians of Kentucky, but also to the laymen, it is especially gratifying to learn that the members of the state legislature favored the measure with practical unanimity More and more our legislators are appreciating the necessity of adequately safeguarding the lives and health of the people This is surely one of the first duties of the conscientious lawmaker, as is being realized by our leading statesmen Carefully drafted and impartially enforced health laws, together with the moral and financial support of the health authorities by both the government and the people, will save thousands of valuable lives and millions of dollars in money to the country each year

PHYSICIANS IN POLITICS

A member of the Committee on Medical Legislation, comments this week[1] on the work recently accomplished in Ohio, where 105 physicians went to the state convention as delegates of one of the leading parties, the result being that, for the first time in the history of this country, a state convention adopted a platform containing a declaration in favor of the organization of a national department of health It is hardly necessary to say that such a plank would never have been adopted

1 Department of Medical Economics, page 986
1 Correspondence Department page 998

dently with cerebral symptoms On autopsy, I found an abscess situated in the left lobe near the optic thalamus (*Vide* Plate) Some amœbæ-like bodies were found in the pus but they were not motile

IX Amœbic dermatitis and subcutaneous abscesses

Amœbic dermatitis resulting in abscesses in the skin have been described by some but authentic reports are meagre

255 Consecutive cases of Suppurative Hepatitis (Amœbic) and 6 cases of Amœbic Suppurative Splenitis

No of years	Year	Operation	Aspiration			Aspiration and Irrigation			Open Operation: with Klapp suction and drain			Open Operation: with Klapp suction, drain and continuous irrigation			P C of Mortality			
		Total	Total	Cured	Died	Total	Cured	Died	Total	Cured	Died	Total	Cured	Died	Aspiration	Aspiration and Irrigation	Klapp Suction and Drainage	Klapp Suction and Drainage and continuous irrigation
1	1909	5	1	1	*nil*				4	1	3				*nil*	*nil*	75%	*nil*
2	1910 11	13	9	8	1				4	2	2				11 1%		50%	
3	1912 13	30	23	22	1				7	3	4				4 3%		57%	
4	1914	15				10	10	*nil*	5	3	2					*nil*	40%	
5	1915	13				13	13	*nil*								*nil*		
6	1916	15				15	15	*nil*								*nil*		
7	1917	16				13	13	*nil*	3	2	1					*nil*	33 3%	
8	1918	28				28	28	*nil*								*nil*		
9	1919	40				24	24	*nil*	16	13	3					*nil*	18 7%	
10	1920	36				20	20	*nil*	6	5	1	10	9	1		*nil*	16 6%	10%
11	1921	41				30	29	1				14	13	1		3 3%		7 1%
GRAND TOTAL		255	33	31	2	153	152	1	45	29	16	24	22	2	6%	0·6%	35%	8 3%
6 Cases of Amœbic Suppurative Splenitis																		
Up to 1920		4				2	2	*nil*	2	2	*nil*					*nil*	*nil*	
1921		2										2	1	1				50%
TOTAL		6				2	2		2	2		2	1	1				16 2%

CATARACT EXTRACTION WITH IRIDOTOMY

By R P RATNAKAR, DO (Oxon) DCHO (Liverpool), DOSM (England)
Formerly Resident Surgical Officer, The Royal Eye Hospital Manchester

There are two kinds of Iridotomies that I do in extractions one is peripheral iridotomy (A) and the other is complete iridotomy (B)

I do the first operation (A) where simple extraction is intended, and the second (B) operation in place of the combined extraction

(A) CATARACT EXTRACTION WITH PERIPHERAL IRIDOTOMY

In describing this operation which is a modification of simple extraction, it is not my intention to enter into a discussion about the advantages of the simple extraction over the combined one

That subject has been sufficiently thrashed out, and every Ophthalmic Surgeon follows his own convictions

But I agree with Terrien, that simple extraction is the procedure of choice, and the combined operation one of necessity or selection

The great advantage of simple extraction is its cosmetic effect—the preservation of the round pupil—and, if it were not for the dread of prolapse of iris, many surgeons would, I am sure, perform this operation in their private practice more frequently than they do at present

It is with a view to counteract the tendency to prolapse of the iris, that I have made a modification in the simple extraction, *viz*, peripheral iridotomy, which does not interfere with the roundness of the pupil

Chandler, with the same object in view, has introduced the button-hole operation, in which he makes a small hole in the iris near its periphery

In this (Chandler's) operation, it is not always so easy to make the 1 mm diameter hole in the iris as advocated by Chandler The pupil is often distorted in eyes operated on by this method and lastly, if a simple incision in the iris serves the same purpose, excision of a piece of iris, however small, is not commendable

Medical News

CONNECTICUT

Physicians Honored.—At a dinner of the Yale Medical Faculty held in New Haven March 5 special honor was tendered to Dr William H Carmalt, for more than 40 years a member of the faculty of the school, president of the state medical society in 1904, for 20 years secretary of the American Congress of Physicians and Surgeons, and now president of the American Surgical Association ——At a testimonial tendered to Dr William C Wile by the professional men of Danbury and vicinity Rev H. C Meserve acted as toastmaster Dr Wile was lauded as the organizer of the Danbury Medical Society, and as responsible for many good works both in and out of professional life, and he was congratulated on his restoration to health and activity, after a long and serious illness ——Local members of the New Haven Medical Association gave a dinner March 4 in honor of Dr Edward K. Root, Hartford He afterward read a paper on "Blood Pressure" before the association

ILLINOIS

Communicable Diseases—The public schools of Rantoul are to remain closed for a week on account of the prevalence of scarlet fever ——The State Board of Health has received word that 4 additional cases of smallpox have appeared at Auburn ——At Harlem Center 20 cases of smallpox of mild type are reported ——There are said to be 15 well developed cases of smallpox at Robinson and a quarantine has been established

Personal—Dr Albert Green Rockford is confined to his house as a result of the fracture of a rib ——Dr Arthur R. Adams, Macomb expects to leave this month for Europe —— Dr and Mrs Albert Weil Peoria, have returned from a trip to Cuba ——Dr and Mrs Thomas E. Roberts Oak Park, sailed for Europe March 14

Chicago

Unlicensed Practitioner Fined—J C Dyer, 6509 Minerva Avenue, charged with practicing medicine without a license, is said to have been found guilty March 10 and fined $100 and costs

Personal—Dr and Mrs D A K. Steele are taking a trip to California ——Dr and Mrs Jacob Frank have returned from New Orleans ——Dr Alfred D Kohn has been reappointed a member of the board of education ——Dr Frank J Dewey was painfully injured in a collision between his bicycle and a street car March 8 ——Dr Albert E. Froom has moved to Mount Rose, Colo

Deaths of the Week.—During the week ended March 14, there were 639 deaths reported, 30 fewer than for the previous week, and 45 fewer than for the corresponding week of last year the respective annual death rates per 1 000 being 15 38, 16 10 and 16 92 The diseases showing greatest decrease as compared with last year were Cancer 15 a decrease or 10 scarlet fever 8, a decrease of 10 nephritis 31, a decrease of 9, and whooping cough 2 a decrease of 5 The chief increases in mortality were From acute intestinal diseases 50 an increase of 24 typhoid fever, 7 an increase of 5, diphtheria, 11, an increase of 5 violence, 44, an increase of 8, and measles, 5 an increase of 2

Contagious Disease Situation—The week ended March 14, as compared with the previous week showed a material improvement in diphtheria and scarlet fever 25 cases fewer of the former being reported and 12 cases fewer of the latter As compared with the corresponding week of 1907, there were 185 fewer cases of these diseases Chickenpox decreased 61 5 per cent and typhoid fever more than 54 per cent as compared with the preceding week The cases of measles increased from 156 to 232 those of whooping cough from 14 to 27 and those of tuberculosis from 23 to 51 During the week 6 smallpox patients were taken to the Isolation Hospital none of whom had ever been vaccinated

Fraud Order Issued—A fraud order was issued on February 12 by the Postoffice Department against the "Chicago Medical Institute William Wood secretary "Dr Dunn' George Gordon secretary and S F Francis alias Dr Dunn with offices at room 201 130 Dearborn Street This institution is one of the many whose advertisements state that it never disappoints its patients that it fulfill its promises never holds out false hopes cures varicocele in four days without pain operation or ligature cures prostatitis in ten to twenty days without cutting dilating etc On decoy letters being written to the institute reply was received that it would use internal medicines and also urethral suppositories for the cure of prostatitis and requested that $10 be paid in advance A fraud order was issued about two years ago against the firm of Francis and Francis which after being put out of business induced Dr Daniel Dunn to become a partner and carry on the business

IOWA

Affiliation Proposed—At the regular mid year meeting of the Board of Trustees of the Iowa Weslevan University, February 21, the proposition of the affiliation of the Keokuk Medical College with the university was brought up for consideration

Personal.—Dr Oscar Fordyce, Guthrie Center, is said to be seriously ill with pneumonia ——Dr William W Hawks, Colfax has been nominated as postmaster ——Dr Fred P Bellinger, Council Bluffs, has returned from Europe ——Frederick A Slyfield Iowa City, has been appointed first assistant state bacteriologist

Dies Without Medical Attendance—The 10 year old son of an eddyist of Brazil died recently from pneumonia after an illness of two weeks This is said to be the second child to have died in the family treated only by the prayers of eddyists The coroner's jury placed the responsibility for the child's death on the parents

Hospital Opened—On February 25, the new Oskaloosa Hospital, which has been completed at a cost of $15,000, held a shower and inspection day The institution will have accommodations for 25 patients At the shower quantities of linen, kitchen utensils, coal, fruit and canned goods and $350 in money were received The advisory board consists of Drs Jay G Roberts, Lewis A Rodgers and Ripley C Hoffman

Epidemic Diseases—Charles City reports about 65 cases of measles ——Three deaths from cerebrospinal meningitis have occurred in Harlan ——Diphtheria has appeared among the students of the State University, Iowa City, and one of the fraternity houses is under quarantine ——Smallpox is reported to be epidemic in Allamakee County ——Smallpox measles mumps and chickenpox are reported to be prevalent in Traer ——Several cases of smallpox are reported from Waterloo ——There are now 8 smallpox patients in the Isolation Hospital Sioux City ——Two cases of smallpox developed March 3, in a hotel in Cedar Rapids

LOUISIANA.

Sanitary Inspection—The New Orleans health board has sent out 27 crews, each composed of three members, to locate all unscreened cisterns and all low lying and badly drained places in the city

Disposition of Fever Fund.—The balance of the fund subscribed to fight yellow fever in 1905, amounting to about $20,000 has been disposed of by the New Orleans Health Association by donating two thirds of the sum to the Anti tuberculosis League and one third to the Eye, Ear, Nose and Throat Hospital

Society Reorganizes—The Terre Bonne Parish Medical Society has been reorganized at Houma with the following officers President, Dr Joseph B Duval, Houma, vice presidents, Drs Adolph J Delcourt, Houma, and R. M Calmore, Shriever, secretary, Dr Adolph J Delcourt, Jr, Houma, and treasurer, Dr Leon J Menville, Houma

Personal.—Dr L O Clark Lafayette, has been appointed president of the Lafayette Parish board of health vice Dr George R Delaureal, Broussard, resigned ——Dr Francis W Brian, Alexandria, is said to have been fined in the city court $15, for failure to report a case of communicable disease February 26 ——Dr Robert C Kemp has moved from Feliciana to Baton Rouge

Colored Medical Association Meets—The Louisiana Medical, Dental and Pharmaceutical Association held its annual meeting in New Orleans, March 4, 5 and 6 Dr Isaac W Young, Alexandria, was elected president, F M Nelson, secretary Dr A J Aubrey Jesuit Bend, corresponding secretary, and Dr Leonidas T Burbridge New Orleans treasurer It was decided to establish a medical journal for the association with the following staff Editor, Dr C J Lopez, Lake Providence associate editor, Dr Leonidas T Burbridge New Orleans, and manager R. Fredericks The association adjourned to meet in Alexandria

MARYLAND

Hospital Note—The new north wing for the Frederick City Hospital has been given by Mrs Margaret F S Wood at a cost of $10 000 as a memorial to her husband

Tuberculosis—By a vote of 11 to 4 the Towson Improvement Association, on March 9, passed a resolution protesting

I began clinical investigations on the action of these drugs in eye diseases in the beginning of 1919, and my observations on its action in conjunctivitis produced by various micro-organisms were recorded in the *Indian Medical Gazette* for July 1920 The conclusions arrived at are summarised as follows —

(1) The drugs used in ophthalmic practice are few in number, flavine will be a very valuable addition to our armamentorium, especially in the treatment of all kinds of muco-purulent conjunctivitis and ulcerative keratitis, caused by Koch-Weeks's bacilli or by the coccal group

(2) Again, most of the drugs commonly used in eye diseases cause smarting or irritation Flavine is one of the few exceptions

(3) It has got a great future in operative ophthalmic practice, its antiseptic value being superior to that of any of the existing drugs

(4) Its curative and prophylactic value compares favourably with that of silver preparations, which are probably the most extensively used of all the drugs in ophthalmic practice

Both proflavine and acriflavine were tried in trachoma for more than a year, it was found that acriflavine was decidedly superior to any of the existing drugs on account of its non-irritability, powerful antiseptic property, non-coagulant effect on albumin and acting better in the presence of serum and tears The results of my investigation on its use in 40 cases of trachoma were published in the *Indian Medical Gazette* of July 1921, and they were summarised as follows —

(1) It shortens the period of treatment to an appreciable extent

(2) It is possible to prevent the onset of complications by systematic treatment from the beginning

(3) The complications are quickly brought under control and stopped from further progress

I now wish to deal with its application in some other eye and general diseases

In surgical ophthalmic cases, it is my practice to put a drop of acriflavine after an operation before applying a bandage, not because this has got any advantage over strict asepsis but because it puts confidence in the mind of the operator about the sure protection from sepsis, which in spite of all our care is sometimes unavoidable, especially in the case of busy ophthalmic surgeons who have to depend on assistants for preparation of patients

Flavine was tried on six cases of *dacryocystitis* Four cases were rapidly cured under alternate probing and syringing with flavine solution (1 in 4,000) In the remaining two cases the improvement was not sustained and their lacrimal sacs had to be removed

Proflavine was tried in 20 cases of *suppurative keratitis* of unclean progressive type with remarkably good results It was given at first in 1 in 10,000 strength every fifteen minutes until the ulcerated parts of the cornea had acquired a yellowish tinge, when the strength was doubled and the interval increased to one hour The slough gradually acquires a deeper yellow tinge after which the strength is increased to 1 in 1,000 and given at intervals of three to four hours

As soon as the slough acquires a deep yellow tinge, amelioration of signs and symptoms generally ensues and the ulcer enters upon a regressive stage After an interval, which may vary considerably according to the thickness of the slough and nature of the ulcer, the slough is gradually cast off leaving the ulcer clean Once the ulcer is clean ordinary methods of treatment are indicated Of course it must be understood that atropine or eserine is the sheet-anchor of our treatment in keratitis for ensuring rest to the ciliary region

In cases of torpid or indolent ulcers, it is often very difficult to stain the slough which, even if stained, takes the stain only superficially In these cases, irritants like Tr Iodine, phenol, etc., are indicated as a preliminary to treatment with flavine

So much for eye diseases With regard to its administration in a few other diseases, its value in big *septic wounds* was fully demonstrated during the late war Its efficacy in *gonorrhœal urethritis* is well known On my request, Captain Byramjee of Quetta gave a systematic trial in 10 cases of gonorrhœal urethritis to acriflavine and compared its value in similar cases with potassium permanganate and silver nitrate solutions on irrigation Abortive treatments were tried in a large number of cases alternately with acriflavine and protargol Acriflavine was found to be decidedly superior to all the other preparations

Application of flavine solution (1 in 1,000) in *ulcerative stomatitis, tonsillitis* and *pharyngitis* is also followed by good results A yellow film quickly covers the surface of raw ulcers and if sloughs are already present they acquire a yellow tinge with amelioration of pain and inflammation Healthy granulation tissue is exposed immediately after the yellow slough is cast off

With regard to its action in *burns and scalds* In the first stage, picric acid is decidedly superior to flavine, as the latter has no anæsthetic property But when shock is over and the burning sensation is gone and the surface is denuded of its epithilium or is raw, ulcerated and inflamed, the use of flavine is especially indicated It assists in the formation of a yellow fibrinous coating or slough under which granulation tissue rapidly begins to form Pain and inflammation of surrounding tissues quickly disappear This yellow fibrinous slough is rapidly peeled off within a few days leaving healthy granulation tissue beneath Once this granulation tissue appears, flavine should be replaced by the other antiseptic drugs commonly used, for unless the dressings be kept moist, the part becomes painful again

Intravenous administration of acriflavine — Acriflavine (1 in 1,000) was tried intravenously in 2 cases of enteric fever, 2 of erysipelas, 6 of

of the society but of those who loved, admired and revered him

Contagious Diseases.—There were reported to the sanitary bureau for the week ended March 7, 1,465 cases of measles, with 26 deaths, 901 cases of scarlet fever, with 56 deaths, 426 cases of tuberculosis, with 200 deaths, 379 cases of diphtheria, with 48 deaths, 26 cases of typhoid fever, with 7 deaths, 10 cases of cerebrospinal meningitis, with 12 deaths, 9 cases of whooping cough, with one death, and 215 cases of varicella, making a total of 3,432 cases, with 350 deaths

The Problems of Congestion of Population.—A conference on the problems of congestion of population in connection with an illustrative exhibit was held in the Museum of Natural History on March 9, 10 and 11 The exhibit will be open to visitors until March 23 Among the topics discussed were "The Housing Problem," by Robert W DeForest, "Moral Standards and Family Life in the Tenements" by Felix Adler, "Congestion and Preventable Diseases," by Dr Abraham Jacobi, Prof L H Bailey of Cornell University, and C W Larmon of the State Department of Agriculture set forth the advantages of farm and country life Many requests have been received from other cities that the exhibit be sent to them as an educational factor

OHIO

Fire in Hospital.—Fire in the Piqua Memorial Hospital March 3 necessitated the removal of the patients from the hospital The fire was confined to the basement

Boy Phenomenon Sent to Jail.—R. E Brake, who is known throughout Ohio as the "boy phenomenon," is said to have been sentenced on March 11 at Lisbon to pay a fine of $25 for contempt of court, and in default was committed to jail

Academy Election.—The Cincinnati Academy of Medicine, at its annual meeting March 2, elected the following officers Dr William E Gillespie, president, Drs Rufus B Hall and Stephen E Cone, vice presidents, Dr Mary K. Isham, secretary, and Dr Alexander G Drury, treasurer

Local Option Law Violators.—Dr Thomas N Dean, Hicksville, against whom an indictment was recently returned for issuing prescriptions for whisky, withdrew his appeal to quash the indictment and entered a plea of guilty to issuing prescriptions for whisky and is said to have been fined $250 and costs——Dr George W Mehl, Ashland, charged with prescribing whisky is said to have pleaded guilty recently and was fined $250 and costs

Communicable Diseases.—Smallpox is reported to be epidemic at Holloway——There are now three smallpox patients at the Isolation Hospital, Toledo——There are reported to be 25 smallpox patients in Vanceburg and its vicinity——A case of cerebrospinal meningitis was reported at Cleveland, March 10——Two deaths from cerebrospinal meningitis were reported March 10 in Columbus——Germantown is at present threatened with an epidemic of scarlet fever

Hospital Notes.—Articles of incorporation of Grant Hospital, Columbus, were filed February 24 It is proposed to erect a six story brick hospital, to cost $150 000——Plans are being prepared for the new hospital at Massillon to be three stories in height, of brick and stone, and to cost $50 000, the expense being borne by J I Pocock, who will present the institution to the city——Ground was broken March 10 at the Franklin County Infirmary, Columbus, for the building for the County Tuberculosis Hospital Mrs Samuel L Black, president of the Columbus Society for the Cure and Prevention of Tuberculosis, turned the first spadeful of earth——Youngstown Hospital celebrated the twenty fifth anniversary of its foundation March 7

Personal.—Dr John J Kinney, Wooster, was operated on February 21 for appendicitis at the Charity Hospital, Cleveland——Dr Robert H Grube has been elected vice chairman, and Dr Lawrence H Brundage, health officer of Xenia——Dr William H Taylor Cincinnati was tendered a dinner at the Queen City Club March 2, in honor of his fiftieth year in the practice of medicine in Cincinnati——Dr George D Gohn, Dayton, has been appointed jail physician, vice Dr Alvin L Light——Dr Myron S Clark has been elected vice president of the board of health, and Dr Harry E Welch, health officer, of Youngstown——Dr James H Fisher, Malinta, while returning from a call March 3, fell on the ice and broke his leg at the ankle——Drs A C. McNutt and Jerome Bland have been elected honorary life members of the Crawford County Medical Society——Dr Henry C Gibson has been elected health officer of Glouster

PENNSYLVANIA.

Need City Bacteriologist.—At a meeting of the Physicians' Association of Chester the adverse action of the city councils, in defeating the proposition to appoint a city bacteriologist was considered, and every member of the association was urged to attend the next meeting of councils and explain the necessity of such an official

Smallpox Spread by Mail.—Eight more cases of smallpox in Dauphin County were reported to State Health Commissioner Dixon March 14 They are the result of the infection spread through the mails several months ago, when a postal clerk who had smallpox handled mail distributed to various parts of the state

County Society Meeting.—The Northumberland County Medical Society held a meeting March 6, at which Dr John B McAlister presented a paper on the proposed one board bill, wherein it was shown that, instead of an examining board for each school of medicine, there should be but one standard for the licensing of a person to practice medicine. The society was notified that three persons were illegally practicing medicine in the county, two without a state certificate and one without either state certificate or a diploma The secretary was instructed to ascertain if these facts were true from the secretary of the state medical council, and, if so, to notify these individuals that unless they properly qualify they will be dealt with according to law

Philadelphia

New Laboratory for College.—The new laboratory for the analysis of food and drug products, being completed for the College of Pharmacy, will be formally opened the beginning of April The cost of the building will be $40,000 and it will contain facilities for all kinds of qualitative analyses, as well as an equipment for the education of food and drug chemists

Elections.—At the annual election of the Northern Medical Association of Philadelphia the following officers were selected President, Dr Herman A Brav, vice president, Dr Ralph E Shrom, treasurer, Dr John W Millick, secretary, Dr William R. Bready Jr, librarian, Dr Robert J Hess, recording secretary, Dr Thomas R Currie, and censor, Dr David Riesman——The officers of the Section on General Medicine of the College of Physicians for 1908 are Chairman, Dr J Alison Scott, clerk, Dr George W Norris, executive committee Drs Samuel McC Hamill, Aloysius O J Kelly and George W Norris

Building New College.—Work has been started on the new building for the College of Physicians and it is expected that it will be completed late in the fall It will be a two story stone structure, 120x180 feet The first floor of the building will be divided into offices and a large room for the display of anatomic specimens owned by the college Nearly all the second floor will be given up to library and lecture hall Space will be made for the large number of valuable works of reference Andrew Carnegie gave $100 000 to the college, thus rendering it able to begin building at once The cost of the new home will be about $300,000

Doctors and Druggists Meet.—A joint meeting of pharmacists and physicians was held at the College of Physicians March 11, for the purpose of remedying abuses in the sale of nostrums and proprietary medicines Dr Albert M Eaton presided Dr Joseph P Remington, dean of the College of Pharmacy, contended that if physicians would make a united stand the sale of secret preparations could be stopped It was shown that there was greatly increased growth in the proprietary medicine industry, increasing from 1 127 establishments in 1890, having a working capital of $18,600,000 and producing $32 000 000 worth of preparations, to 2 245 establishments in 1905, with $46 000,00 capital and producing $75,000,000 worth of nostrums from material costing $21,000,000

Health Report.—The total number of deaths reported for the week ended March 14 was 527, a decrease of 44 from the previous week and a decrease of 61 from the corresponding week of 1907 The principal causes of death were Typhoid fever, 17, measles, 5, scarlet fever, 6, diphtheria, 5, consumption, 71, cancer, 21, exophthalmic goiter, 2, apoplexy, 6, paralysis, 7, heart disease 55, acute respiratory diseases, 90, gastritis, 6, enteritis, 13, cirrhosis of the liver, 5, acute nephritis, 8, Bright's disease, 42, puerperal septicemia, 5 congenital malformation, 6, premature birth, 12, congenital debility, 9, old age, 5 suicide, 5 accidents 20 and marasmus, 2. There were 255 cases of contagious diseases reported, with 28 deaths compared with 244 cases and 30 deaths reported in the preceding week.

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Extract of the fresh liver of the Cod Supersedes Cod Liver Oil

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Alkaline Solution of Glycerophosphates

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For treatment of Constipation by Biliary, Pancreatic and Intestinal secretions prepared in tablet form

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A liquid extract from Cinchona Succirubra. Contains 5% of Quinine Alkaloid

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Tablets for Boils, Carbuncles and Staphylococcal Affections

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To be diluted for Lotion for Acne, etc

STANNOXYL INJECTION
To be injected intramuscularly

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Crystallisée Granules, Cardiac Tonic

SUKRO-SERUM
Intramuscular Injection for Tuberculosis

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TRICALCINE
Contains the pure phosphates of lime and magnesia

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Powerful Urinary Antiseptic dissolves and eliminates Uric Acid

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INTRAVENOUS. **GALYL** IS THE SAFEST OF ALL ARSENICAL COMPOUNDS IN **SYPHILIS** INTRAMUSCULAR.

(*Vide* Presidential Address, British Pharmaceutical Congress, 10th July 1918.)

Therapeutics

[It is the purpose of this department to outline an up to-date management of disease, to suggest scientific treatment for diseased conditions, and to present prescriptions that are simple, useful and palatable. Prescriptions are written in both the metric and apothecaries' systems, but the amounts of the ingredients are NOT exact translations of one system into the other, but quantities convenient for pharmacist and physician. It should be understood that solids are weighed in grams or fractions of grams, while liquids are measured in cubic centimeters, that a teaspoon holds five cubic centimeters, i. e, more than a fluid dram, hence a 100 cubic centimeter preparation will contain twenty doses.]

Alcoholic Cerebral Edema (Wet-Brain)

Dr Charles K. Stillman, New York (*New York Medical Journal, Jan. 25, 1908*), discusses this condition He believes that the stupor following alcoholic delirium is due to cerebral edema, but admits that many serous effusions are found in the meninges on the postmortem table in patients who have shown no cerebral symptoms during their illness The wet brain caused by alcohol seems to be a "transudate from the piarach noid and occasionally from the small blood vessels penetrating the brain substance" He finds the stupor due to alcohol almost invariably preceded by delirium From a study of the alcoholic patients of Bellevue Hospital, during the year from Sept 1, 1905, to Sept 1, 1906, who have had alcoholic wet brain or alcoholic stupor, he has found the mortality to be as high as 81 per cent

Stillman speaks of having seen many instances of transitory wet brain in pneumonia patients, the symptoms sometimes being so short lived as to have escaped notice

It certainly is not uncommon to see, on the one hand, cere bral excitation from the medicinal overuse of alcohol in acute diseases, as pneumonia or typhoid fever, and also, on the other hand, symptoms of wet brain from its misuse in these dis eases

While there is no rule as to the time of onset of stupor after delirium tremens or in pneumonia complicated with de lirium tremens, Stillman finds the symptoms of wet brain manifest themselves about the third or fourth day The early symptoms of this condition are "restlessness, marked altered facial expression, and gray pallor" During the alcoholic ex citation the pupils are likely to be contracted, and may be even contracted to a pin point As the cerebral transudate oc curs the pupils dilate and generally remain so, although they will usually react to light, though sluggishly The pulse is feeble, may be rapid or may be rather slow, and shows varia tions from time to time The temperature during this alco holic depression is low and there may be muttering and often a picking at the bedclothes The condition is more likely to be a stupor than a coma

Stillman would head off this alcoholic wet brain by forced feeding He gives enormous amounts of food, including eggs, eggnog and broths, together with powerful stimulation, when the pulse flags and the vital processes get low He says that the patients do not react to normal stimulating doses, and it is surprising how much stimulation they can take care of with apparent benefit He advises

℞	gm or c.c.		
Strychninæ sulphatis	.01		gr 1/6
Camphoræ	1	or	gr xv
Spiritus frumenti	ad 100		℥iij m

M et Sig A tablespoonful every three hours if needed.

He also finds the following useful

℞	gm		
Caffeinæ citratæ	6	or	3iss

Fac capsulas 20 (dry)

Sig One capsule every six hours.

Or

℞	gm		
Caffeinæ sodio benzoatis (N F)	6	or	3iss

Fac capsulas 20 (dry)

Sig One capsule every six hours

He finds that spinal puncture is of benefit for a short time if the cerebral pressure has produced stupor and that the relief from such puncture will last a day or so

Patients with wet brain from alcohol should probably not receive alcohol. Also, when there is any such condition of the brain, absorption from the stomach is uncertain, and of course enormous doses of any stimulant so administered may be tol erated It should be distinctly understood that when there is severe cerebral disturbance sufficient to cause stupor or coma, the stomach for the time being becomes practically outside of the body, and it would be just as efficacious to bathe the body with the medicament as to put it into the stomach On the other hand, if suddenly the condition of the circulation im proves and the cerebral pressure is relieved, dangerous absorp tion from drugs in the stomach may occur Consequently the medicinal treatment of coma or stupor should be hypodermatic or intravenous

For the above condition no treatment is perhaps better than the intramuscular injection of an aseptic ergot, a syringeful of the pure fluid extract or the active principle repeated in three hours, for two or three doses, and then once in six hours, if needed

The hypodermatic administration of strychnin sulphate or nitrate in doses of 1/30 of a grain, is a necessity for cardiac and respiratory stimulation

The advantages of a hypodermic injection of a saturated so lution of camphor in pure olive oil can not be questioned It is a quick and efficient cardiac and cerebral stimulant, and if aseptic precautions are taken, will never produce an abscess

Caffein, best given in the form of black coffee and adminis tered by the stomach, is certainly valuable in all cases of cere bral depression when there is no excitation

Starchy Drinks

The food value of a starchy drink during certain illnesses is considerable, also many thin, cereal liquids are very soothing to patients with gastrointestinal disturbances With seriously ill patients a happy arrangement of a mixed diet of some milk some beef juice and some thin digestible, well cooked starch makes the most appropriate food

The following suggestions of the way such nutritious drinks should be prepared are from 'Practical Dietetics," by Alida F Pattee

BARLEY WATER

Pearl barley, 1½ tablespoonfuls
Cold water, 1 quart
Salt, enough

Wash the barley, add cold water and let it soak several hours, drain and add the fresh cold water boiling gently over direct heat for two hours down to one pint adding water from time to time salt to taste and strain through mu lin Cream or milk may be added or lemon juice and sugar ' This makes a demulcent drink, slightly constipating

RICE WATER

Rice, 2 tablespoonfuls
Cold water 1 pint.
Boiling water or hot milk, enough
Salt enough

The carefully w h d and cl an d rice s ull Be a l) the cold water an d cooked a ' ir or (' r (' t ' Strain, and dilute with ' ' ' ' de ired consistency an d ' ' ' r may be added if de ir

DECREASE OF SUGAR PERCENTAGE

DIABETYLIN

For the treatment of DIABETES MELLITUS

Without the withdrawal of Carbo-hydrates from the dietary

Treated as a disease due to BACTERIAL CAUSES.

DIABETYLIN is composed of vegetable trypsin and yeast specially treated
DIABETYLIN has given consistently satisfactory clinical results on the Continent in a large number of cases reported by some of the leading doctors
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Simple Combined Treatment of Syphilis.

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At the International Congress of Medicine, Ehrlich stated that the bio-chemical action of "606" on spirochætes is not direct but indirect, a third factor found in the body fluids being necessary

This success is explained by the well known experiment of Levaditi "If living treponemas be placed in a solution of Arsenobenzol (Ehrlich's 606) they continue to live in it. But if a trace of extract of liver be added to the mixture the treponemas are destroyed "

"If 606 has to be taken up and transformed by the liver in order to become toxic to the treponema, there is no better mode of absorption of the drug than by way of the intestine, since all the veins of the intestines join the portal vein If this be the case, no route could be more indirect and more unsatisfactory for active treatment than one that is not intestinal or not intravenous (*i.e*, prehepatic), since some of the drug must necessarily become fixed everywhere before the passage through the liver has activated it.'—Dr Sabouraud, La Clinique (13 4-1913)

In Boxes of 6 "Supsalvs" (Adult)—dose 0 10 gm **In Boxes of 6 "Supsalvs" (Infant)—dose 0 03 gm**

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is an excellent adjuvant to the treatment with Supsalvs, the combination giving good clinical results
Mersalv contains 10 per cent. metallic mercury
Mersalv is in 2 oz. and 4 oz Pots sufficient for fifteen or thirty days' treatment

13|8|21

SIRS,—It may interest you to know that I have had very satisfactory results in the treatment of one case of syphilis in a lady who was of such a hysterical nature that she could not bear puncture with a needle SUPSALVS were used in conjunction with MERSALV and after one course the Wassermann has been negative for a year The present is a 'safety repeat course

(*Signed*) E. T B

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REID HUNT M D Chief of the Division of Pharmacology U S Public Health and Marine Hospital Service Washington, D C. (March 1 1912)
J H LONG M S Sc D Professor of Chemistry Northwestern University Medical School Chicago (March 1 1912)
J STIEGLITZ Ph D Professor of Chemistry University of Chicago, Chicago (March 1 1912)
R A HATCHER Ph.G M D Professor of Pharmacology Cornell University Medical College New York City (March 1 1913)
J A. CAPPS A.M M D Assistant Professor of Medicine Rush Medical College University of Chicago Chicago (March 1 1913)
DAVID L EDSALL, A B M D Professor of Therapeutics and Pharmacology, Department of Medicine University of Pennsylvania, Philadelphia (March 1 1913)
W A PUCKNER Ph G Chief of the Chemical Laboratory American Medical Association Professor of Chemistry University of Illinois School of Pharmacy, Chicago member *ex officio*

ASSOCIATE MEMBERS

A R CUSHNY A M M D Professor of Pharmacology University of London London England.
H THOMS Ph D Director of the Pharmaceutical Institute University of Berlin Germany

STAFF OF CLINICAL CONSULTANTS

The Council on Pharmacy and Chemistry presented to the Board of Trustees, *at its meeting in February, 1908*, a request for the appointment of a body of clinicians to whom could be referred questions relating to therapeutics In its communication to the board the Council stated that in the course of its work the subcommittees had frequently encountered questions a solution of which required the experience and opinions of clinical therapeutists The suggestion of the Council was agreed to and the following were elected as the staff of clinical consultants

LEWELLYS F BARKER M D Professor of Medicine, Medical Department of the Johns Hopkins University Baltimore.
H A CHRISTIAN M.D Assistant Professor of Theory and Practice of Physic Harvard Medical School Boston
LEROY CRUMMER M S M D Professor of Medicine and Clinical Medicine John A. Creighton Medical College Physician to St. Joseph s Hospital Omaha
GEORGE DOCK A M M D Sc.D Professor of Theory and Practice of Medicine and Clinical Medicine University of Michigan Department of Medicine and Surgery Ann Arbor Mich
GEORGE E DE SCHWEINITZ M D Professor of Ophthalmology Department of Medicine University of Pennsylvania Philadelphia
JOHN T HALSEY M D Professor of Materia Medica Therapeutics and Clinical Medicine Medical Department (Undergraduate) Tulane University of Louisiana New Orleans.
C F HOOVER A B M D Professor of Physical Diagnosis Medical College Western Reserve University Cleveland Ohio
ALEXANDER LAMBERT A B Ph B M D Professor of Clinical Medicine Physician to Bellevue Hospital Cornell University Medical College New York City
J L. MILLER M D Assistant Professor of Medicine Rush Medical College University of Chicago Chicago
H C MOFFITT B S. M D Professor of Principles and Practice of Medicine University of California Medical Department San Francisco
A T MCCORMACK M D M A. Secretary Kentucky State Medical Association Bowling Green Ky
ALFRED STENGEL M D Professor of Clinical Medicine Department of Medicine University of Pennsylvania Philadelphia
CHARLES G STOCKTON M D Professor of Principles and Practice of Medicine and Clinical Medicine Medical Department, University of Buffalo Buffalo
J A WITHERSPOON M D Professor of Practice of Medicine and Clinical Medicine Medical Department Vanderbilt University Nashville Tenn
A S TAUSSIG M D Lecturer on Medicine the Denver and Gross College of Medicine Medical Department of the University of Denver Denver

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An Illustration of the Unreliability of Formulas Furnished by Manufacturers.

"Enteronol" is another illustration of the use of the fake formula to satisfy the demand for at least the semblance of non secrecy The manufacturers declare that Enteronol is the greatest antiseptic and germicide known to science and that it destroys the germs of typhoid fever acute and chronic diarrhea, dysentery cholera infantum cholera morbus summer complaint Asiatic cholera etc, within two hours" Accompanying the wonderful statements is published the following formula'

"Ipecac, sub nit. bismuth, latalia rad, camphor, lupulin, caffein and rheum"

WHAT IS LATALIA RAD ?

A correspondent has written us concerning some interesting facts discovered by him On receiving a sample of Enteronol he noted the name "latalia rad," and sought enlightenment in regard to it in books on botany and pharmacognosy Failing to find any mention of it, he wrote to the Enteronol Company, asking for a small sample of the drug "latalia rad," that he might study it botanically He enclosed $1 for the sample He expected to receive a small piece of root or bark, but, instead, the company wrote "On account of the cost of latalia rad viz, $25 45 per lb, we do not send out any samples of the drug" In another letter the company stated that the plant grows in the wilds of the Himalaya mountains, and that it was not able to procure enough for its own uses We have no doubt that this last statement is entirely correct Further correspondence was no more satisfactory Our correspondent remarks that his conclusions led him to terminate his correspondence with the Enteronol Company by informing it that he is firmly convinced that *no such plant as "latalia rad" is in existence*

The inference is that the company has no latalia rad" From the romantic sounding habitat of the mysterious plant, the exceedingly high price put on it by the company, and the absence of any knowledge of it on the part of any one save the company, it is probable that no such plant exists

RESULTS OF MICROSCOPIC EXAMINATION

To get at some facts regarding this nostrum samples were sent to Prof Henry Kraemer, professor of pharmacognosy in the Philadelphia College of Pharmacy, and to Prof W B Day of the University of Illinois each of whom examined Enteronol microscopically Professor Kraemer reported

> I have made a microscopic examination of Enteronol tablets The mixture appears to consist of rhubarb and a starchy drug resembling zedoary, which I take to represent the 'latalia rad' of the formula, although I have found no reference to the latter in the literature There is also present a considerable amount of a water soluble crystalline substance which tastes and crystallizes like alum I have also been able to detect a stone cell resembling that of capsicum and a single fragment which I take to be a tracheid of ipecac I may add that the tablets are not uniform that is the material does not appear to have been well mixed and hence the tablets not only vary in microscopic appearance but also in taste

The results of Professor Kraemer s examination are practically identical with those of Professor Day who reports

> I have examined microscopically the proprietary preparation known as Enteronol I note that Enteronol is said to be a remedy consisting of the following ingredients Ipecac sub nit bismuth latalia rad, camphor, lupulin, caffein and rheum' On referring to well known reference works on botany and pharmacognosy, such as the Dispensatories the Pharmacographia Hager's Praxis the Treasury of Botany Lyon's Plant Names Hobbes Botanical Handbook and the general index to the Proceedings of the American Pharmaceutical Association I find no mention of a drug or plant known as latalia" and I must conclude therefore that this title is a misnomer I have seen Professor Kraemer s report which my results confirm Rhubarb is present in considerable quantity there is also much of a crystalline substance which I take to be alum and there is starchy powder which corresponds closely to zedoary Lupulin in substance at least is absent and ipecac if present at all is in very small amount Since zedoary is an East Indian drug it possibly is the mystic drug "latalia rad" which "grows in the wilds of the Himalaya mountains" I resemblance ends here however for zedoary costs but 20 cents a pound wholesale and the U S Dispensatory says of it it does not appear to be as well or better than [illegible]

This report [illegible] "latalia rad" is simply a [illegible]

Indian Medical Gazette.

SEPTEMBER

THE ECONOMIC FACTOR IN TROPICAL DISEASES

INDIA, a land which was unusually prosperous during the war,—is now beginning to feel the pinch of high prices and low exchange Under such conditions the play of economic factors in inducing endemic and epidemic disease is bound to make itself felt sooner or later Poverty is nowhere to be seen in more acute form than in India Many millions of the poorer population live on a minimum of food, exist in what McCollum terms "the twilight zone," where small shifts in the quality of the diet are sufficient to determine a pathogenic state It is of interest and of great importance to study what may be the effects of such factors Apart from the question of vitamines in general, what are likely to be the results of increased prices of foodstuffs and deficient dietary?

In the first place certain diseases appear to be directly due, not so much to a loss of vitamines, as to a change to a poorer diet In the attempt to keep up the total quantity of the diet, cheaper and more inferior grains are consumed This may in itself lead to diseases due to poisonous principles in the cheaper grains Major Acton's work on lathyrism (*I M G* July 1922) is a striking instance, Here in a part of Rewah State in years of high prices, of monsoon failure, or of famine the local crops of rice and wheat fail, vegetables are exhausted, and the "harwars" fall back on a purely vetch diet of kesari dâl The local supplies of the small dâl do not ripen until October or November, and from March to August the people subsist on the large Bhagalpur dal, which is imported Under monsoon conditions of high atmospheric temperature and humidity the Bhagalpur dâl germinates with the production of a poisonous amine, and cases of lathyrism of sudden onset and resulting in life-long paralysis and crippling ensue Major Acton estimates that there are possibly some 60,000 cases of this disease,—due entirely to low economic conditions,—in North Rewah

Acute "Kodon" poisoning is a second instance of such conditions (*I M G* July 1922, p 257) "Kodon" is a species of millet very commonly used for foodstuff by the poorest classes in the U P As described by Dr Anand Swarup under certain conditions this grain develops poisonous properties, and its ingestion gives rise to acute poisoning with symptoms pointing to lesions of the C. N S and cardio-vascular system

As shewn in a most interesting preliminary paper elsewhere in this number epidemic dropsy of Bengal is a third disease due to poisonous principles in foodstuffs It is almost exclusively limited to middle class Hindus, clerks, artisans and the like. The wealthy escape because their diet includes less rice, and meat, etc are also included The very poor, who eat the "desi" rice also escape, since this rice is more or less fresh and free from poisonous principles The middle class Bengali, however, eats the milled "balami" rice which is sweeter in taste, and also this article constitutes the main bulk of his diet In years when prices rise, and heavy humidity obtains during the monsoon, this "balami" rice becomes acted on by a fungus a poisonous amine is developed and appears to be the cause of epidemic dropsy The main factor concerned is the storing for long periods of this rice, owing to high prices, and its consequent over-seasoning with the development of poisonous properties.

Here we have three diseases each due directly to the play of economic factors, and each due to the development of poisonous principles in stored grain The importance of identifying and investigating the causation of such diseases, directly due to economic factors, in India cannot be over-estimated

Passing from direct poisoning by inferior foodstuffs we come next to such conditions as Keratomalacia and the recent important work of Major R E Wright, I M S, in Madras (*I M G* July 1922, p 271) The important factor here appears to be that "insufficiency of diet in general predisposes to the disease" The condition is not apparently due to any loss of vitamines in particular Major Wright graphically describes the conditions under which the poorest classes in Madras live There are three levels at which deficiency of diet is important in producing systemic degenerations —(a) there may be a shortage of

The physicians of the state were organized by Dr Charles A. L. Reed of Cincinnati for the purpose of getting representation in the convention They have succeeded beyond their expectations and there are the names of 105 physicians on the roster of the great body now in session here

The published details of the convention show some additional facts of interest The physicians number one eighth of the whole convention They were all representative men They met in caucus and determined what they wanted in the organization and in the platform The presidency went to Secretary Garfield, but Dr Reed was made the first vice president of the convention The committees on rules and on permanent organization, and, most important of all, on resolutions, each contained a strong representation of physicians The result, according to published reports was the full realization of the object that the physicians had in view, namely, the adoption by the convention of a plank in its platform committing the party to "the organization of all existing national public health agencies into a single national health department"

The movement for a national department of health was begun by the American Medical Association very early in its history and has been agitated since then with more or less zeal by the Association and the profession This is the first time, however, that a plank favoring the proposed national department of health was ever adopted by a political convention It is no small cause for congratulation that Dr Reed and his Ohio colleagues have succeeded in making this beginning

They, no doubt, appreciate better than any one else that this is only a beginning The declarations of a platform, to amount to anything, must be ratified at the polls and redeemed in the legislatures and in Congress To do this means participation in the campaign It means, furthermore that physicians must go to the legislature, not as supplicating committees craving a favor, but as members with power to vote It means that physicians must go in increasing numbers to Congress—to the House and to the Senate The movement for a national department of health probably never will succeed until the medical profession sends at least some of its strong men like Reed, Welch and Mayo to champion the cause of public health in the halls of Congress

The political activity that has been displayed by the physicians of Ohio ought to be taken up in every other state Declarations in behalf of a movement to unite under one head all of the national agencies of public health ought to be made by every party in every convention in every state and in every national convention held this year There are urgent reasons why this should be done The cause of the proposed department of health is one and a sufficient one But in addition to this, it is known that within the next eighteen months a prearranged effort will be made to destroy the force of existing medical laws in several states, but particularly in Ohio, New York Massachusetts and Illinois The conspiracy has already been hatched It behooves the medical profession of all the states to be on guard all the time, but in the four states mentioned it is imperative that the guard be placed directly within the halls of legislation The physicians of the different states ought to furnish 20 per cent of the members of every legislature elected this year If this is done state medical laws will be safe and with additional representation of the medical profession in the Senate and House of Representatives at Washington, the legislation on public health so necessary will speedily become an assured fact

C S BACON
Member Committee on Medical Legislation, American Medical Association

The Prophylaxis of Venereal Diseases.

DETROIT, March 13, 1908

To the Editor —Much has been said and written on this subject, arguments have been advanced either for or against the periodical examinations and possible licensing of prostitutes In a recent paper in the *American Journal of Public Hygiene*, Dr Abner Post Burton says I believe it would be best for us in New England absolutely and definitely to surrender the idea (for the present, certainly) of license and periodical examination of public women This expression of belief is not intended to express any opinion, pro or con as to the value of this method as employed in many foreign cities, *but simply a belief that it is not adapted to New England*" What Dr Post says of New England is true I believe, of the entire world Periodical examinations have been discontinued in nearly every city and country in which it has been thoroughly tried In Detroit such a system was in vogue for five years, but was abandoned as worse than useless in fact, harmful In the first place, the principle of recognizing the women as a class is wrong, again, the examinations unless made by public physicians, are unreliable, and even when properly made they can never be made often enough to warrant giving any prostitute a clean "bill of health" to be relied on until the next examination

What then shall boards of health do with this problem? That question presented itself to the Detroit board of health when it decided to abandon the periodical examinations with their useless certificates of good health, and I believe we have found the remedy The following method as practiced here *has been in use but about two months*

The keepers of all houses of prostitution known to the police have been notified that certificates of health will no longer be required nor accepted by the board of health The board does not care about certificates, but does care about health It is *its duty to prevent*, so far as possible the spread of all contagious diseases and venereal diseases are contagious Therefore, on and after January 1 the health officer or some physician delegated by him, will visit these houses at unannounced and irregular intervals and examine the inmates If any are found with a contagious disease (gonorrhea or syphilis) the house will be quarantined

The placard used on these houses is a large yellow card with the one word 'quarantined" printed on it in conspicuous, heavy, black letters Up to the present four houses have been quarantined In each case after the placard had been on the house a short time from one to four days the keepers of the houses have asked permission to remove the diseased inmate to a hospital for treatment at the expense of the 'landlady' This was done and the patient was in each case isolated at the hospital until reported recovered by her attending physician Then after a thorough examination clinical and bacteriologic, by a physician of the board of health when found recovered, she was allowed to go

The new method presents great possibilities and is in my opinion, the solution of this part of the great problem It puts the responsibility of keeping well entirely on the women and relieves boards of health *from the position of licensing* these houses The contagious diseases, however are treated as other contagious diseases would be after they have been reported or became known to the public health authorities In order to make the system more efficient a physician should devote his entire time to looking up these cases and reporting them, when found, to the board of health

GUY L. KIEFER M.D. Health Officer

Poisoning from Eggs

MIDDLETOWN DEL. March 12 1908

To the Editor —Dr A. J. Anderson Newport R. I. in a letter to THE JOURNAL March 7 page 785 said that he never had seen in the literature a report of poisoning by eggs Several months ago I was called to such a case

B. L., a young man aged 19 who general health is good, always suffers like attacks on consuming food containing the lightest trace of eggs He can not eat griddle cakes unless the egg if they are cooked on a griddle which previously had been used for cakes containing eggs He can not eat cake without eggs if in cutting it the knife has touched part of a cake containing eggs One day I called my attention to his idiosyncrasy for such food and I for an attack [illegible] his condition was [illegible]

Later in the [illegible] him pacing t[illegible] Extreme nerv[illegible]

the plains and were still heavily infected gave material which at once enabled the asexual cycle to be discovered

Thus on the large and epidemic scale, economic factors are factors of immense importance in tropical diseases In Assam, kala-azar is a more severe disease among the village populations than among the tea garden coolies who are under much better economic surroundings What may be merely hookworm infection in a well nourished individual passes into hookworm disease in states of malnutrition We agree with Dr Bentley that the study of economics should be part of the medical curriculum, at least in India We have to consider not merely the disease which affects an individual but the economic surroundings in which he lives More attention to the play of economic factors and a little less to "dawai" may help to solve many of the problems of tropical medicine

THE BOMBAY SCHOOL OF TROPICAL MEDICINE

The decision of the Government of Bombay not to proceed with the scheme for a Bombay School of Tropical Medicine is a severe blow to the cause of medical progress in India Up to January, 1922, it was intended "that the scheme for the School of Tropical Medicine should be brought into force with effect from the 1st April 1922, the necessary provision for the expenditure being made in the budget estimates for that year" In February 1922, however, it was decided that funds would not permit of the opening of the School and thus a splendid scheme brought almost to complete maturity by the incessant and arduous labours of Colonel W Glen Liston CIE, IMS, and backed by very generous financial support from Sir Dorab Tata disappears from view almost at the moment when it was completed and about to commence work on its important programme of post-graduate teaching and research work His many friends and admirers in India will sympathise with Colonel Glen Liston in his regret at this disastrous close to a splendid and well organised scheme

We trust that the disappearance is only temporary, and that when funds permit the Bombay School will ultimately open Expenditure upon post-graduate education and research work in medicine may seem a heavy item to legislatures anxious to economise Yet retrenchment in such lines is false economy The present status of medical education in India is far from what it might be Yet where are the teachers of medicine to the next generation in India to come from, except from men trained and taught in the latest and best methods in post-graduate classes at such schools? One of the most important functions of such Schools of Tropical Medicine is to teach medical men who will in turn themselves become teachers in the new and increasingly large number of medical schools throughout the country

Also to economise in medical research work is to go on wasting money in old fashioned public health measures based upon foundations of ignorance From the point of view of legislation, for instance the importance of finding out how kala-azar spreads from man to man lies in the fact that at present very considerable sums have to be spent annually in public health measures, many of which may ultimately prove to be unnecessary The Bilharzia Mission in Egypt was able to show at a very small expenditure on staff and materials exactly what measures should be taken to exterminate endemic hæmaturia in Egypt, and how easily a country which has been infested with disease since the days of the Pharaohs can be delivered from this age-long pestilence Colonel Liston's well-known work on dracontiasis in Bombay shews how simple and relatively inexpensive a matter it is to eradicate guinea-worm infection in the Deccan Before the Plague Commission discovered the rôle of the rat-flea in disseminating plague, the annual expenditure in Bombay city alone on such disinfectants as phenyl and perchloride of mercury for wholesale disinfection of houses was over a lakh of rupees whilst very much larger sums were expended in the Punjab and elsewhere To-day rats and fleas alike are destroyed at a minimum of cost and maximum of efficiency by the hydrocyanic acid gas apparatus Instances of how medical research work returns a hundredfold in its cost in improved public health, in saving of lives and in increased prosperity and happiness of populations in the tropics could be cited from almost every country in the tropics The more accurate our knowledge of disease and of how it spreads, the more efficacious

mastoid, which in turn is characterized by rapid destruction of bone and by the persistence of fever, pain and subjective noises, even after a free discharge of pus has been established Pfingst also states that a peculiar feature of otitis due to this cause is the formation of blood vesicles on the drum and in the auditory canal

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address but the request of the writer not to publish name or address will be faithfully observed.

THE SIGNIFICANCE OF PHOSPHATURIA

CLARKSON KY March 7 1908

To the Editor —Kindly give me an opinion in regard to the following case Patient, a male, aged 32 married family history good, general health good digestion satisfactory sexual relations normal habits good no diathesis nervous temperament. For years he has had an almost constant alkaline urine loaded with phosphates The sediment of phosphates (after urine stands for one or two hours) sometimes equals as much as 20 per cent. of the volume of urine giving it an almost semi solid appearance the urine otherwise is normal 1 Is this excess of phosphates due to an unstable condition of the nerve tissue, or does the condition probably depend on the products of secondary digestion? 2 In either case if this condition persists is it not probable that these phosphates acting as an irritant will produce serious organic disease of the kidneys?

B C WILSON M D

ANSWER —1 The condition commonly known as phosphaturia is due to a precipitation of the earthy phosphates the phosphates of calcium and magnesium, which becomes insoluble in consequence of the alkaline reaction of the urine The presence of such a deposit is no evidence of an increased production or excretion of the phosphates but simply shows that the urine has become alkaline The condition is therefore improperly named phosphaturia but should rather be called alkaliuria. No reliable investigation has shown any increase in the amount of phosphoric acid above the normal. In some cases a larger amount of earthy phosphates has been excreted because of the increased amount of calcium or magnesium ingested. Normally calcium is excreted by the intestines but in some cases the amount of calcium excreted by the intestines is less than normal and in such cases an increased amount of earthy phosphates appears in the urine The alkaline reaction of the urine may be due to a large amount of vegetables and fruits Temporarily, an alkaline reaction of the urine may be produced (a) By the absorption into the blood of salts of the vegetable acids such as the acetates citrates etc This form of temporary alkalinity may occur from a meal of vegetables or fruit the urine becoming alkaline from three to six hours after the meal (b) By the direct ingestion of alkalies such as soda, magnesia, alkaline mineral water etc (c) From the secretion of a highly acid gastric juice In this case the urine becomes alkaline and may be loaded with phosphates shortly after a meal containing a large amount of meat or other proteid food If there is frequent vomiting of acid the urine may be almost continuously alkaline The urine is liable to become almost continuously alkaline in patients suffering from hyperacidity of the stomach who use large doses of alkali to neutralize the acid No positive evidence has been afforded that the nervous system can influence the reaction of the urine otherwise than by its influence on the reaction of the gastric juice but our knowledge of metabolism is by no means sufficient to exclude such a possibility In a case such as above described the cause of the condition should first be sought in the character of the diet and if it can not be accounted for in this way the condition of the digestive organs should be carefully investigated If neither the diet nor the digestion will account for the condition one might refer it to the action of an unstable nervous system

The phosphates are precipitated in an amorphous condition, and apparently do not produce irritation of the genitourinary tract. They may however favor the formation of calculi by collecting around some already formed nucleus Organic disease of the kidneys is not likely to result from this condition.

WEIL'S DISEASE

CONCORD N H Feb 28 1908

To the Editor —Please direct me where to find information on Weil's disease (acute infective jaundice)

MARION L BUGBEE.

ANSWER.—Weil's disease is described in most of the standard treatises on the practice of medicine The following is a list of articles which may be referred to Some of them may not be on Weil's disease but it is impossible to differentiate them by the title

Funyon F J Epidemic Catarrhal Icterus as a Complication of Pregnancy *Memphis Med Month* June 1902.

Brooks Grave H A Case of Weil's Disease with Delirium *Arch Neurol and Psychopath* III 3

Einhorn, M Two Cases of Weil's Disease Complicated by the Temporary Appearance of Small Tumors in the Liver *Am Jour Med Sc* November 1904

Curwen E Epidemic Catarrhal Jaundice, *Brit Med Jour*, Jan 11 1902

Sandwith F M Weil's Disease in Egypt *Jour Trop Med* Jan 15 1904

Anderson S An Epidemic of Catarrhal Jaundice in Buxar Central Jail *Indian Med Gaz* November 1903

Satterlee G R A Case of Bacteriuria Resembling Weil's Disease *Med News* June 6 1903 abstracted in THE JOURNAL June 20 1903 p 1756

SANDWITH F M Infectious Jaundice *Brit Med Jour*, Sept. 17 1904

Nicolaysen L Epidemic Icterus *Deutsche Med Wochschr*, xxx 24 abstracted in THE JOURNAL July 16, 1904 p 231

Robertson E W Six Cases of Epidemic Jaundice in the Young *Virginia Med Semi monthly* July 12 1906

Ross H H Acute Epidemic Jaundice *Journal of Kansas Medical Society* October 1906

Addison J L Epidemic Catarrhal Jaundice *Canada Lancet* April 1906

Tucker E F G Epidemic of Malignant Jaundice in Bombay *Indian Medical Gazette* January 1907

Knauth Weil's Disease *Deutsche med Wochschr* xxxi 50

Thornburg R M A Fatal Case of Acute Infectious Jaundice (Weil's Disease), THE JOURNAL A M A Aug 3, 1907 p 415

ELECTROTHERAPY WITH THE AUTOMOBILE

ARKANSAS CITY, KAN

To the Editor —Since writing an article to THE JOURNAL on my experience with automobiles I have utilized my electric in a new field I have had wires run from the rheostat switch in the garage to my office and connected with a wall plate consisting of a milliamperemeter a rheotome a rheostat and induction coil This gives an ideal electrical apparatus with a sixty volt pressure and amperage sufficient to melt a screw driver in ten seconds. The current is under perfect control giving from one milliampere to the heaviest cautery This will appeal to any electrotherapeutist who realizes the value of the direct current and the annoyance and expense in keeping up a galvanic apparatus The cost is almost nothing A day's work will not be noticed on the meter or mileage of the machine When I run the automobile into the garage I plug in as for a charge and the current is available at the office night or day Should the automobile be out and the current needed I have but to throw the switch and the current is delivered from the generator

J H GUINN

CLEVELAND OHIO Feb 28 1908

To the Editor —During the past two years I have used my electric victoria with my electro-magnet for removing steel and iron from the interior of the eye. The strength of the magnet is greater than that from the street current. My electrician tells me that it is fully one-third stronger It has saved me the expense of a motor generator and can be used anywhere I have used it at least thirty times and it has never failed me

A R BAKER

HENOCH'S DISEASE—EPONYMIC NOMENCLATURE

NEW YORK Feb 21 1908

To the Editor —In THE JOURNAL Feb 15 1908 page 545 you mention Henoch's disease as a cause of hematuria Can you tell me of any book that will tell me in the index where I can find all about Henoch's Brown's or Smith's diseases Would it not be a good rule to accept no article with a proper name classification unless along with it there is a name by which it can be looked up in text books The more I think about Henoch's disease the more I want to know

JOHN WOODMAN

ANSWER.—Henoch's disease is a form of purpura and is usually called Henoch's purpura On consulting nine text books on the practice of medicine we found it indexed in all but one In two cases it was referred to as Henoch's disease In the other cases as Henoch's purpura, the name being put only under purpura in a few cases The name of this disease is one of those called eponymic being arbitrarily derived from proper names Such names are correspondingly lacking in connotation and consequently impose an extra and entirely unnecessary burden on the memory Their use should be widely discouraged in spite of the arguments for the historical feature and the honor to the original investigator In a few cases however the eponymic title has brevity decidedly in its favor as unfortunately it is not possible to use a title sufficiently descriptive to identify the disease in all cases To detail the symptoms characteristic of Adams Stokes disease in all cases where this is referred to would be very cumbersome The same is true of some other diseases which are conveniently characterized by a special name usually that of the one who first described it.

excision was done on a leg of mutton to illustrate the diathermy method of surgical procedure. Through and through coagulation between electrodes was also demonstrated in meat.

We hope to publish Major Shorten's lecture in detail in a future number of the *Gazette*

Intestinal Obstruction by a Mass of Round Worms

CAPTAIN A P PILLAY records the case of a boy of about 10 who when first seen looked drowsy but could be roused The abdomen was slightly bloated and a sausage-shaped, tender tumour about 4 inches long could be felt and seen across the umbilicus His temperature was 101 degrees F There was no vomiting and the bowels did not move that day

Eight days previously the child had passed several loose motions with blood and mucus, and domestic remedies had relieved the condition, but the child began to complain of severe pain round the umbilicus He was given santonin and aperients and had one unsatisfactory stool with two round worms These remedies were repeated but with no avail, the pain and collapse getting worse Volvulus or spasm of the intestine was suspected and he was given morphia gr ¼ with atropine sulph gr 1/200 hypodermically at about 9 p m The child had a good night and passed a ball of round worms next morning with complete amelioration of symptoms He continued to pass these worms for the next three following days and passed in all about one hundred worms Captain Pillay remarks had the boy been given an enema after the second dose of santonin he would not have suffered so much

Intravenous Air Embolism

MAJOR F J W PORTER DSO RAMC (retd) writes to ask that readers of the *Gazette* will furnish any information which they may have on the subject of air embolism That the introduction of a few bubbles of air into the vein when giving an intravenous injection is followed by no harmful effects is the experience of everyone who was compelled during the war, to work with old and unsatisfactory syringes We know of one operator who deliberately introduced half a c.c. of air at the end of an intravenous injection the injection being followed by no bad effects On the other hand the intravenous injection of air is a favourite method of killing experimental rabbits in Pasteur Institutes and the injection of 5 c.c. into the ear vein of a rabbit brings about almost instantaneous death It would be interesting to know the safety limit in man but however harmless a bubble or two of air may be they are far better avoided. Probably there is more danger of air embolism when aspirating blood from a vein with a leaky syringe under negative pressure than when giving an intravenous injection

Idiopathic Tropical Pyrexia

By CAPTAIN R W MENDELSON, M R.C. U S A
The Military Surgeon May, 1922 p 547

ANY one interested in the unclassified fevers of the tropics would do well to consult this paper in the original After a review of the unclassified fevers at present described as certain clinical entities the author proceeds to describe Castellani's high or *low intermittent* non-malarial fever and to state that it is not at all uncommon in Siam As an illustrative case he records the instance of an Englishman aged 33 taken suddenly ill during the night with chill sweating and a temperature of 101 degrees F For the next five weeks the temperature chart was an oscillating one swinging from 102 degrees to normal and with—apparently—a curious wave-like incidence the highest temperatures recurring about every 8th or 9th day The only other symptom complained of was pain in the right lumbar region which the author attributes to hepatic disturbance The patient felt remarkably well the whole time and in the case of another similar patient he insisted on keeping on with his work although his temperature was never below 101 degrees and the hepatic pain was constantly present.

The blood picture is stated to be characteristic The R B C. count and hæmoglobin index are normal But there is a mild eosinophilia and a very remarkable absolute lymphopænia with leucopænia. The small lymphocyte percentage was only 2 per cent. All tests were negative blood examination showed no parasites the Widal was negative the stools showed nothing abnormal, and the urine was normal The convalescence was remarkably rapid

Until such cases are more thoroughly investigated than is at present the case, it is as well that careful clinical records of them should be accumulated Syphilis tuberculosis, hepatitis, kala-azar and undulant fever all seem excluded in this case by the extraordinary leucocyte count yet it is not safe to make a diagnosis of idiopathic tropical pyrexia until every other possible cause of pyrexia has been investigated and excluded

A Genuine Case of Malarial Polyneuritis

By R W MENDELSON, M D,
Journal of Tropical Medicine and Hygiene
June, 1st 1922, p 139

DR MENDELSON'S case was a Siamese male adult admitted to hospital in an unconscious state after three days illness Blood examination showed a severe M T malarial infection During the first 24 hours in hospital 40 grains of quinine were given intravenously, after which the patient recovered consciousness Intensive quinine treatment was continued for a week

The onset of the malarial attack had been accompanied by difficulty in walking and in using the upper limbs On the 7th day in hospital the patient's condition was as follows —Complete paralysis in the lower extremities with foot drop The patient could not stand, and the loss of power was complete Both arms were partly paralysed the right more than the left wrist drop was complete in the right arm but not in the left There were no sensory disturbances, and sensibility to touch pressure and temperature had not undergone any change The ankle and knee jerks were abolished in both legs Wrist jerk was present only in the left arm and not in the right The organic reflexes were not affected and the trunk muscles, those of the neck and face eyes, tongue, respiration, heart etc, were not affected There was slight oedema of both ankles The Wassermann reaction was negative and all other possible causes of the neuritis could be apparently excluded

Dengue v Malaria

By R. E INGRAM JOHNSON, L.R.C.P,
Journal of Tropical Medicine and Hygiene
May 1st, 1922, p 111

DR INGRAM JOHNSON has an ingenious hypothesis to put forward that an attack of dengue will clear a patient of malarial infection Ten cases are quoted where an attack of dengue has apparently cleared a patient of chronic malaria or where after an attack of dengue a person has been freely exposed to malarial infection without contracting the disease He suggests that the attack of dengue leads to the production of ferments which destroy the malarial parasites We cannot however, regard the evidence which Dr Ingram Johnson brings forward as evidence of any real value whatever The reporter who had dengue nine years ago soon after arrival in Ceylon, and has since escaped malaria although taking no precautions against the disease, may not continue to enjoy immunity It would probably be possible to find ten cases of persons

lished name, or if it is labeled or branded so as to deceive or mislead the purchaser or consumer as to where the article is made or as to its true nature or substance or as to any identifying term whereby the purchaser or consumer might expect the article to possess any property or degree of purity or quality which the article does not possess This provision applies to all statements made in the label or the advertisement or any means by which representations regarding the product are made to the purchaser or consumer (3) In the case of certified milk, if it is sold or labeled certified milk and has not been so certified under rules adopted by any county medical society or if when so certified it does not conform to that degree of purity and quality necessary for infant feeding (4) Misrepresentation as to the weight or measure, length of time the product has been ripened, stored or aged, where packed or produced or the length of time it has been kept in tin or other receptacle

WHAT IS ADULTERATION OF FOOD

Adulteration is defined to be, (1) Mixing or packing any substance with the article so as to reduce or injuriously affect its quality or strength, (2) if any substance is substituted either wholly or in part for the article (3) if any valuable constituent of the article has been wholly or in part abstracted or if the product is below the standard of purity or quality represented to the purchaser or consumer (4) if it is mixed, colored, coated polished powdered or stained so that damage is concealed if it is made to appear better or of greater value than it is, or if it is colored or flavored in imitation of the genuine color or flavor of another substance of a previously established name (5) if it contains poisonous ingredients dangerous to health or antiseptics or preservatives injurious to health or not stated on the main label (6) if it contains or is manufactured from a diseased contaminated, filthy or decomposed substance, either animal or vegetable unfit for food, or is in any part the product of a diseased animal or of an animal that has died otherwise than by slaughter or that has been fed on the offal from a slaughter house, or if it is the milk from an animal fed on a substance unfit for food for dairy animals or of an animal kept and milked in filthy or contaminated surroundings

DRUGS AND REQUIREMENTS CONCERNING THEM

Section 5 defines drugs to include all preparations recognized in the latest editions of the United States Pharmacopeia or the National Formulary, and any substance or mixture intended to be used for the cure mitigation or prevention of diseases of man or animals

Section 6 provides that drugs shall be deemed adulterated if, when sold under the name recognized in the U S P or N F they differ from the standards laid down in those authorities (2) if the standard of purity falls below the professed standard or quality under which it is sold (3) if one article is substituted for a different article or if a greater or less quantity of any ingredient specified in the prescription is used

Section 7 provides that drugs shall be regarded as misbranded (1) if the package or label bears any statement which is false or misleading in any particular (including place of production) (2) if the original contents of the container have been removed in whole or in part and any other contents placed therein (4) if the container fail to bear a statement of any alcohol morphin opium cocain heroin alpha or beta eucain chloroform cannabis indica chloral hydrate or acetanilid or any derivative thereof Special clauses provide that this shall not apply to the dispensing of prescriptions written by a regularly licensed practicing physician veterinary surgeon or dentist that it shall not interfere with the existing laws regarding the practice of medicine or pharmacy and that no prescription shall be knowingly refilled except for the person for whom it was written

TESTS TO BE MADE

Section 8 authorizes the director of the Kentucky Agricultural Station to make examinations of samples of food and drugs manufactured or on sale in the state or which the State Board of Health or the State Board of Pharmacy or any county and city attorney of the state may suspect of being adulterated or misbranded For the sake of uniformity the director is instructed to confer with the United States Department of Agriculture All rulings pertaining to sanitation shall be collaborated in connection with the State Board of Health The Kentucky Pharmaceutical Association and the Kentucky State Medical Association are authorized to select one representative who shall act with the director to make and establish all rules and regulations for governing and carrying out the provisions of the act relating to drugs

METHOD OF PROSECUTION

Section 9 provides that when any article is found to be adulterated or misbranded, the director of the Agricultural Station shall certify the facts to the commonwealth attorney of the district, county or town in which the adulterated article was found, together with a sworn statement of the results of the examination Every commonwealth attorney to whom such a report shall be sent or to whom the State Board of Health, the State Board of Pharmacy or the chief health officer of any county, state or town shall report any violations, shall constitute proceedings against the party violating the act Manufacturers or dealers are to be notified of the findings and given a hearing within fifteen days before the report is made

Section 10 provides for annual reports to the government on the part of the director, and for the issuing of bulletins from the State Agricultural Station, giving the results of inspections and analyses

Section 11 authorizes the Experiment Station to receive $7 50 for the analysis or examination of any sample taken in accordance with the act or for inspections of factories, grocery stores bakeries, slaughter houses, etc The board of control of the Experiment Station is directed to render an itemized account to the state auditor each year

Section 12 provides that manufacturers shall file with the director of the Agricultural Station the name of the product, place of manufacture, and a true copy of all labels used

Section 13 provides for a guaranty to be made by the manufacturer or wholesaler for the protection of the purchaser

The section regarding drugs and liquors is not to take effect until Jan 1, 1909

The New Jersey Antivivisection Bill.

The *Journal of the Medical Society of New Jersey* for March comments on the hearing on the antivivisection bill introduced into the general assembly of that state This hearing was held by the legislative committee, to which it had been referred Four men and two women were present as advocates of the bill and spoke in favor of its adoption About 250 prominent physicians from all parts of the state, together with leading men from New York City, Philadelphia, Princeton University, Rutgers College and the Rockefeller Institute for Scientific Research were present to present the scientific side of the case

According to the *Journal*, the advocates of the bill disclaimed opposition to animal experimentations, but wanted such regulations, restrictions and inspections as would practically prevent the progress of medicine They wished such experimentation confined to medical schools They magnified the number of cases of abuse, and stated that many able surgeons were opposed to animal experimentation, deeming it unnecessary In reply to questions asked by members of the legislative committee the supporters of the bill could cite no cases, of their own knowledge of cruelty which had occurred in the state They based their statements on newspaper reports They were not able to give the name of a single surgeon who was opposed to animal experiments

In opposition to the bill, Dr F J Ill president of the Medical Society of the State of New Jersey spoke as the representative of 1 400 physicians Dr Lowery stated that he introduced the bill at the request of another member that he did not think it was a proper bill and that he was opposed to its passage He was followed by Dr F D Gray of Jersey City Dr Herman H C Herold president of the Newark Board of Health, Professor Scott of Princeton University, Professors Lee and Curtis of Columbia College New York, Dr Hare of Philadelphia Dr Flexner, director of Rockefeller Institute, Drs Le Fevre and Coakley of New York and Dr Kipp of Newark These gentlemen most of them recognized authorities in different lines of scientific research presented the objections to, and the fallacies of such legislation

The bill closely resembles the one now before the New York legislature as well as the bill introduced in New York last year, which was killed by the committee after a public hearing This bill is of particular importance inasmuch as the Rockefeller Institute is located in New Jersey and the adoption of the bill would put an end to research work on the cause and prevention of many diseases of man and animals It is to be hoped that the united stand taken by the scientific men of New Jersey will be sufficient to defeat the bill summarily

27 made a rapid recovery, 7 remained dangerously ill for over 24 hours but ultimately recovered, 13 were rapidly fatal (of which 6 were admitted dead), and 8 died after several days' illness

Rockefeller Foundation Activities

SOMETHING of the immense scope of the activities of the Rockefeller Foundation may be gathered from the following terse summary of the work done in 1921 —

During the year 1921, the Rockefeller Foundation continued a quarter-million annual appropriation to the School of Hygiene and Public Health of John Hopkins University pledged two millions to Harvard for a school of health, contributed to public health training in Czechoslovakia, Brazil, and the United States aided the Pasteur Institute of Paris to recruit and train personnel promoted the cause of nurse-training in America and Europe, underwrote an experimental pay clinic in the Cornell Medical School, formally opened a complete modern medical school and hospital in Peking, assisted twenty-five other medical centres in China, promised a million dollars for the medical school of Columbia University, contracted to appropriate three and one half millions for the rebuilding and reorganisation of the medical school and hospital of the Free University of Brussels, made surveys of medical schools in Japan, China the Philippines, Indo-China, Strait Settlements, Siam, India, Syria, and Turkey supplied American and British medical journals to 112 medical libraries on the continent, supplemented the laboratory equipment and supplies of five medical schools in Central Europe, defrayed the expenses of commissions from Great Britain, Belgium, Serbia, and Brazil, provided 157 fellowships in hygiene, medicine, physics, and chemistry, to representatives of eighteen countries, continued a campaign against yellow fever in Mexico, Central and South America, prosecuted demonstrations in the control of malaria in ten states, co-operated in hookworm work in nineteen governmental areas participated in rural health demonstrations in seventy-seven American counties and in Brazil neared the goal of transferring to French agencies an anti-tuberculosis organisation in France provided experts in medical education and public health for counsel and surveys in many parts of the world, and rendered sundry minor services to governments and voluntary societies"

Residents in India will study such a list with feelings akin to envy The days of the fairy godmother are apparently not over, and what the activities of this splendid, world-wide and disinterested organisation mean in a world-wide gain in public health and education it is impossible to over-estimate We understand that the Rockefeller Foundat on are considering the conditions of medical education in India, but here, as everywhere, their policy is to help those who are prepared to help themselves, and not to enter new fields of activity unless officially asked to do so Meantime perhaps some sportsman might take 1,500 tickets in next year's Calcutta Sweep and make over the tickets, with all their glittering possibilities, to the cause of medical education in this country!

Microscopic Examination of the Brain in Cases of Surgical Shock

By SIR FREDERICK W MOTT, F.R.S.,

and

T UNO, M.D.

Proceedings Royal Society of Medicine May, 1922 Section Neurology, p 25

THIS is an important contribution to the pathology of surgical shock. The material examined consisted of the brains from four cases of shell shock with extensive injuries, a case of death from extensive petrol burns, and cases of fatal shock from bruising of the heart and trivial shell wounds In general the brains were anæmic, there being a deficiency of blood in the brain and its place being taken by regurgitated blood from the venous sinuses and by cerebro-spinal fluid The substance of the brains shewed many empty collapsed vessels with dilatation of the peri-adventitial and perineuronal spaces, filled with cerebro-spinal fluid A variable degree of chromatolysis was present in the brain cells, most markedly in the autonomic nuclei of the medulla oblongata and less marked in the bulbo-spinal motor nuclei The smaller pyramidal cells of the cortex are, as a rule, more affected than the large pyramidal and Betz cells The Purkinje cells shew definite chromatolysis and a tendency to take eosin-acid staining in place of the blue basic dye The authors, although shewing that Nissl bodies are artefacts, yet regard the basic chromophil substance as an index of the amount of stored energy substance. Excessive stimulation especially if accompanied by loss of sleep and a fall of blood pressure, may lead to an exhaustion of this latent store of neuro-potential Fat embolism may be a contributory factor in the first group of cases, where extensive comminuted fractures were present. A much more important element in causing death is the absorption of histamines Death may follow purely muscular injury with little microbic infection, owing to absorption of histamines The vascular theory of surgical shock, which has hitherto held the field is not a full explanation There is no accumulation of blood in the capillaries and veins of the abdominal organs, and little evidence that the patient "bleeds to death into his own veins" What does occur is a concentration of the blood, and stasis in the capillaries throughout the body generally, a condition which Cannon calls 'exæmia" The plasma exudes through the capillary walls into the tissues, and the hæmoglobin index and blood cell count are increased

Following on this careful study of the conditions really present in acute surgical shock, the authors pass to the consideration of the best lines of treatment The conditions accompanying the injury, the thirst, exposure to wet and cold, delayed evacuation of the wounded and rough and prolonged transport to hospital with mental anxiety and pain and sleeplessness all conspire to sap the vital energy In actual practice cases with little shock but much hœmorrhage do better than cases with less hæmorrhage and more shock. Intravenous salines have proved useless Provided that cyanosis is absent morphia is of real value Stimulants, adrenalin and strychnine are useless In some cases transfusion of citrated blood and gum saline solution have raised the blood pressure and led to recovery, but not in the type of acute case with histamine shock and little hæmorrhage Crile recommends the introduction of fluids by natural methods, *e.g.*, Murphy's drip enema of 5 per cent glucose and 5 per cent soda bicarbonate solution In general measures should be taken to —1 raise the blood pressure 2 keep up the body temperature, and 3 increase the volume of the circulating blood But the treatment of histamine shock, present not only in acute surgical shock but also in such conditions as acute bacillary dysentery, is a problem which cannot to-day be said to have yet been fully solved

The paper is accompanied by a series of beautifully executed micro-photographs

Native Remedies

THERE is some faculty about distinguished physicians and surgeons which tends to make their less professional writings unusually attractive The travels of Sir Frederick Treves, the poems of Sir Ronald Ross, the humour of Dr Andrew Balfour, and the courtly and polished yet wholly delightful English of Sir William Osler are illustrations In the *Journal of Tropical Medicine and Hygiene* for June the 1st of this year, is the first instalment of passages from a

a treatment. My husband paid her She was paid for the services rendered me The number of these tablets she gave me varied, sometimes I took more than at other times She would give me directions how to take the tablets I took some of them home She directed me how to take them"

At the close of the testimony the trial court instructed the jury that there was no evidence that the defendant publicly professed to be a physician, or that she assumed the duties of a physician, or that she publicly professed to cure or heal, and that the only question remaining for their consideration was whether during the time covered by the indictment she made a practice of prescribing, or prescribing and furnishing, medicine for the sick The court also instructed the jury that the defendant had the right to keep and sell Schuessler's Tissue Food and other proprietary medicines, and, if a customer indicated to her the nature of his complaint, she could rightfully give her opinion what remedy she had therefor, and state her judgment as to which was best, and give gratuitous advice as to their use, but that she would have no right to diagnose a case and determine for the purchaser the character of the remedy he should use

The trial resulted in a conviction, the judgment for which is affirmed by the Supreme Court

The Supreme Court says that it was argued that to prescribe and furnish medicines is part of duties of a physician, and, as the trial court withdrew from the jury the allegation of the indictment that the defendant wrongfully assumed such duties the charge that she unlawfully prescribed and furnished medicines necessarily fell with it The court thinks the reasoning is unsound The Iowa statute specifically and separately enumerates each of these acts (a) Publicly professing to be a physician and assuming the duties of the profession, (b) prescribing medicines for the sick, (c) prescribing and furnishing medicine for the sick, and provides that any person making a practice of either shall be held to be practicing medicine within the meaning of the law It is quite clear from the statute that the legislature did not understand that these phrases are merely different expressions of the same idea Both expressions appear to have been used in order to bring within the scope of the act both the person who professes to be a physician and assumes the duties of that profession and the person who while not claiming to be a physician, and not assuming the duties of the profession generally, yet undertakes to prescribe and furnish remedies for the sick and afflicted There was no error, therefore, of which the defendant could complain in submitting the case to the jury on the theory that the practice of prescribing, or prescribing and furnishing medicines for the sick is not necessarily included in the charge of publicly professing to be a physician and assuming the duties pertaining to such profession

Again, the point was made that under the trial court's instructions as to what acts would amount to prescribing and furnishing medicines, and as to the plaintiff's right to sell tissue food, there was no evidence on which a verdict could be upheld But, on a careful reading of the record the Supreme Court finds no such lack of testimony in support of the indictment as called for its interference with the finding of the jury

The instructions were to the effect that if the accused after diagnosing a case undertook to determine for a sick person applying to her the character of the remedy best suited to his ailment said act would be prescribing medicine for the sick within the meaning of the statute The Supreme Court is of the opinion that this definition was correct as far as it went and if it was not as full exact and complete as might be framed, the error was one of which the defendant could not be heard to complain The fact that the defendant was careful to call the article which she supplied to the sick "food" instead of "medicine" was not at all decisive of the merits of the case It was evident she was catering to the patronage of the sick who were asking relief from their ills and if she listened to their statements assured them of her ability to help them and supplied them with her alleged appropriate remedies giving instructions for their application or use this would seem to come within the definition given by the court as well as within the ordinary and usual signification attached to the words "prescribing" or "prescribing and furnishing medicines," as they are commonly used and understood Medicine as defined by Webster is "any substance administered in the treatment of disease, a remedial agent, a remedy" The fact that the substance so employed as a remedial agent may have value as a food, and have a tendency to build up and restore wasted or diseased tissue, will not deprive it of its character as a medicine if it be administered and employed for that purpose

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below

Boston Medical and Surgical Journal

March 5

1 *Surgical Treatment of Various Conditions as Influenced by Pregnancy M Storer Boston
2 Case of Acute Dilatation of the Stomach and Duodenum in a Moribund Phthisical Patient Simulating a Terminal General Peritonitis T Ordway Boston
3 The Boston Medical Library Its Past, Present and Future J F Ballard Boston

1 Operations During Pregnancy—Storer investigates the common belief that pregnancy constitutes a sort of *noli me tangere*, so far as operation is concerned Of course, any operation that can be deferred without detriment, it is as well to defer, rather than to subject the already strained organism to additional strain He therefore considers only operations that, if there were no pregnancy, one would not hesitate to say ought not to be deferred, and the bearing of pregnancy thereon From a critical survey of about 700 papers Storer says "It is evident that nearly all operations have practically no influence on the course of pregnancy, except to favor its continuance, provided that they are not followed by a septic process, which, by reason of continued high temperature, may cause the death of the fetus and abortion" He tabulates a number of operations performed during pregnancy without affecting it, not only minor operations, but such grave operations as splenectomy, nephrectomy and thyroidectomy Even when abortion occurs at an appreciable interval, in many of the cases it is open to question whether or not it was caused by the operation His conclusion is "An examination of the foregoing list will show that operations of the most varied nature can be performed with very little danger of interrupting pregnancy with two exceptions in 9 operations for vesicovaginal fistula abortion followed in 4, and in 25 operations for crural hernia it took place six times, just why, in the latter case it is difficult to see" Storer confines himself to the consideration of operations on the uterus and its appendages and the neighboring parts The first consideration is what effect the condition calling for intervention will have on the mother and fetus if left alone It is well to repress reflex excitability by morphin or bromids before operation, and to combat wound infection, if it occurs with cold baths and antipyretics He discusses in detail various conditions calling for interference, and reports five cases of his own, of operation during pregnancy the fourth and fifth being of special interest In the fourth case, pregnancy was denied and not established and operation was to remove an intrauterine fibroid This was done, but a three months' pregnancy was found The patient did well until the eighth day when constitutional symptoms occurred The vaginal examination showed a rupture at the seat of the myomectomy with the lower half of the fetus in the abdominal cavity tightly gripped by the uterine wall Storer emphasizes the following points The difficulty of diagnosis, the danger of infection by a gauze drain, the mistake in closing the uterine wound with catgut, the danger if miscarriage occurs, of the line of least resistance being toward the abdominal cavity rather than toward the vagina the necessity of prompt intervention in case of danger signals and above all, the fact that the tumor would much better have been left alone The fifth case was also one in which pregnancy was denied and it was taken to be a probable left salpingitis In dilating the uterus preparatory to

Rhodesia whereas in 10 previous years he had never seen a case. The typical history in these cases is one of sudden onset in a patient previously apparently in perfect health with high fever and its attendant symptoms The fever subsides about the third day but pain persists in the splenic region and on examination the spleen is found to be enlarged very tender and often tympanitic sometimes almost filling the whole abdomen 19 cases were operated on In the first the tympanitic mass was thought to be distended intestine but on opening the abdomen it was found to be a splenic abscess adherent to the anterior abdominal wall and from which on incision there escaped mixed pus and gas Of the 19 cases operated on 15 made excellent recoveries

The etiology of this curious condition remains unexplained *Entamœba histolytica* was looked for but not found. Slides from one case but not from others shewed spirochætes One case gave a positive agglutination to B paratyphosus C but others did not and agglutination tests to the T A. B group, M melitensis and the Weil Felix reaction were all negative The Wassermann reaction was negative in the cases tested Blood cultures from patients gave no growth On post-mortem examination of cases no evidence was found of endocarditis and no thrombosis of the splenic veins at the hilum The cases examined post-mortem shewed splenic abscesses of two varieties In one set of cases infarction seems to have been the cause one spleen shewing an abscess as large as an orange with five other wedge-shaped infarctions In the other variety the whole spleen is affected and becomes a bag of pus Films shew breaking-down spleen tissue and leucocytes A spore bearing, and presumably gas-producing bacillus was found in some cases The author considers that the condition may be a manifestation of influenza with thrombosis and subsequent softening of the spleen and later secondary infection from the intestine with the gas-forming bacillus

Coffey—The use of Lutein Solution hypodermically, for the control of the nausea and vomiting of pregnancy

Amer Jour of Obstetrics and Gynecology Vol III No 5 1922

THE author reaches the following conclusions —(1) The dry extracts of Corpus luteum and placental tissues prescribed for oral administration have been unsatisfactory (2) In hypodermic medication with lutein he believes we have a remedy which will prove of great benefit in cases of nausea and vomiting of pregnancy (3) The earlier the injections are given the more satisfactory the results (4) The drug is apparently harmless and leaves no unpleasant after effects (5) There seems to be no increased tendency to abortion if the patient remains quiet after the injection

Schwarz and Mehalley—Diffuse Adenomyoma of the Uterus Conditions influencing its development

Amer Jour of Obstetrics and Gynecology Vol III No 5, 1922

THE authors in their studies of 49 cases of this condition bring out the following points Firstly this condition is present in almost every instance with one or more other lesions These lesions are fundamental in influencing the development of this condition The lesion is explained chiefly on mechanical grounds A parous uterus or more particularly one in a condition of sub involution favours the invasion of the mucosal elements This invasion causes a reaction on the part of the myometrium in some cases causing a marked hypertrophy of the wall in other cases this is not so striking

The mechanism in cases of hyperplasia alone is explained on an entirely different basis Here the hyperplasia of the endometrium is the primary condition Subsequently as a result of the persistent hyperplasia a weak hypertrophy results in the uterine wall which gives it its coarse structure and allows the mucosal elements to penetrate between the widened interstices In cases of myomata alone the thickened uterine wall exists before the invasion of glands and results from weak hypertrophy in the attempt on the part of the uterine wall to rid itself of discrete nodules As a whole however diffuse adenomyoma of the uterus occurs in almost every instance as a result of some pathological lesion of the uterine wall favouring its development.

Nicholson - The Induction of Premature Labour in cases of disproportion

Edinburgh Medical Journal Vol XXVIII No 6 1922

THE author raises a plea for the induction of premature labour as the method of choice both in cases of contracted pelvis and also in cases of disproportion due to excessive size of the child He points out the urgent necessity for an examination of all cases at the end of the seventh month He clearly points out that *absolute* measurements are not the point but relative measurements *i e* of the child to the pelvis and that the date of induction must be chosen by the ease or difficulty with which the head can be pushed into the brim The author thinks that an unduly large fœtal head is much commoner than it was 25 years ago In practice he induces labour from the 36th—38th week in all cases of primipara between 35 and 45 years of age In cases of obese women with slightly contracted pelvis in which children have been previously lost owing to excessive size he finds the administration of Thyroid Extract for the last two months of pregnancy beneficial

He also points out the importance of the position of the child's head in all cases of disproportion If in any case the disproportion is so great that at the 34th week the head cannot be pressed into the brim then Caesarian section at term is the better treatment The method of induction of labour recommended by the author is to detach the bag of membranes all round the lower pole of the uterus as high as the finger can reach if necessary dilating the cervical canal first with metal dilators to allow the finger to be introduced Quinine hydrochlor 5 grains hourly being given for 24—36 hours previously and continued after the separation of the membranes to excite uterine contractions This he finds the best method in multiparae In primiparae he packs a ribbon of iodoform gauze into the lower uterine segment by aid of a packer until he has the packing the size of a small orange and when contractions start this is removed

Some Points about Repression

By DR. T A. ROSS, M D,

Proceedings of the Royal Society of Medicine Section Psychiatry April, 1922, p 31

THIS is an admirable paper from the point of view at least of "common sense—a thing that is not really to be despised though it is at present under a cloud' Freud divides mental process into the conscious the fore-conscious and the unconscious The fore-conscious contains that which can be fairly easily recalled and which when it is recalled appears without distortion the unconscious contains that which cannot be recalled by voluntary effort and which appears in consciousness only in a state of distortion "The doctrine goes on to state that when a constellation of ideas has been repressed into the unconscious, psychical or emotional energy is repressed with it. and that unless this energy can be utilised by sublimination, it may become a cause

(the latter two tests are useful in detecting drug addiction), the rosolic acid test paper for acids or alkalies and proteids He then discusses the clinical significance of the finding of these various substances

Medical Fortnightly, St Louis.

February 10

16 The Opsonin Theory and the Probable Future for Bacterial Vaccines L H Warner Brooklyn N Y
17 Drug Medication Regnant in Therapeutics the Key to Exact Medical Science. J Clements Wichita Kans
18 A Useful Iodo Proteid in the Treatment of Tertiary Syphilis J R. Thrasher Indianapolis
19 *Control and Prevention of Tuberculosis. G Homan St Louis

February 25

20 Northern India R G Eccles Brooklyn N Y
21 Evolution of Man Is Evolution of Nature A S Ashmead New York
22 *The Falsetto or Eunucoid Voice E D Clark Danville Ill
23 Appendiceal Perforation C H Shutt St Louis

19 This article will be dealt with in the Department of Medical Economics

22 **Eunucoid Voice**—Clark discusses this condition, not of frequent occurrence, but a true affliction when it occurs, if for no other than esthetic reasons, though in many cases esthetic conditions have a good deal to do with the economic success of the individuals He asserts that the eunucoid voice does not mean abnormal sexuality, for in all cases the genital organs are found normal Clark says that treatment, which is usually effective, consists in a rigid course of vocal gymnastics and monotone exercises with development of a proper method of breathing, especially by the cultivation of the abdominal respiration It is well to assure the patient as to his prospects of improvement His directions are as follows Begin by singing a high note and have the patient repeat it, then sing on down the scale until he has reached his lowest register, then have him keep the voice at this pitch and repeat the low notes in a loud forced expiration for ten or fifteen minutes Have him read aloud in a deep register in a monotone The low register for reading can be secured by singing his way down then continuing in the low tone Have him refrain from all unnecessary use of the voice, except when he is practicing his vocal gymnastics, and let him practice reading in the low tones in the evenings and any other time possible, and soon he will be using the deep masculine tones unconsciously The family practitioner, by attention to this matter which is commonly accepted as an unavoidable misfortune for which it is useless to seek relief may here enlarge his sphere of usefulness

American Journal of Obstetrics, New York.

February

24 *Influence of the Central Nervous System in the Causation of Uterine Hemorrhages. H Ehrenfest St. Louis
25 Phlegmonous Sigmoiditis—Resection—Recovery I Olmstead Hamilton Ont
26 Intrapartum Vaginal Ovariotomy for Ovarian Cyst Obstructing Labor Report of Case K. I Sanes Pittsburg Pa
27 *Scopolamin Morphin Anesthesia in Gynecology E. Ries Chicago
28 Vesicouterine Fistula W H W Knipe New York
29 Obliterating Thrombosis of the Ovarian Artery H Grad New York
30 *Normally There Should Be No Hemorrhage from the Placental Site at the Time of Delivery J G Drennan St. Thomas Ont
31 *Neurasthenia in Its Relation to Pelvic Symptoms in Women E. A Weiks Pittsburg Pa
32 *Curettage and Puerperal Sepsis C E Ruth Denver
33 Cases Illustrating Common Mistakes in Gynecologic Diagnosis. W S Smith Baltimore

24 **Uterine Hemorrhages.**—Ehrenfest says that any acceptable explanation of the exact mechanism by which an impulse originating in the central nervous system—a mental cause—or one transmitted from the central nervous system—a reflex cause—could result in the sudden appearance or the sudden cessation of a uterine hemorrhage must be limited to the following physiologic and histologic facts 1 The blood circulation in the uterus in a very marked degree stands under the influence of the vasomotor system the uterus being an erectile organ 2 The uterine musculature shows rhythmic spontaneous contractions 3 Changes in the tonus of both the uterine musculature and the vessel walls are subject to the influence of the central nervous system 4 Uterine contraction at times (as when the pulse reaches the uterus by way of the nervi erigentes) is accompanied by active vasodilatation 5 The sudden cessation of a menstrual flow or a temporary amenorrhea developing as the result of an emotion or in the course of certain diseases of the nervous system often can not be due to organic lesions in either uterus or ovaries 6 The sudden appearance of a hemorrhage as the result of a mental shock can not be explained, like the menstrual flow as immediately due to certain degenerative processes in the walls of the endometrial vessels 7 A sclerosis of some of the arterial vessels must be considered a physiologic condition of the multiparous uterus In view of the conditions prevailing at the time of the beginning of the menstrual flow we seem forced to assume that the local blood pressure in the uterus at times may fall and rise independently of the general blood pressure Such an assumption is entirely in harmony with physiologic facts A local increase of the blood pressure in the uterus, Ehrenfest thinks, will result from any tonic contraction of the uterus slight enough not to cause a compression of the arteries, but strong enough to effect a cessation of the rhythmic contractions of the uterus Such a contraction is probably better termed a temporary increase of the uterine tonus What will be its effect? The compression of the thinner walled veins will interfere with the defluxion of the venous blood Since the arteries remain unaltered, a congestion results which will be augmented by the absence of the rhythmic contractions which certainly help to propel the venous blood In this way a passive hyperemia is produced The hyperemia must show its most pronounced effect in the capillaries of the endometrium for two reasons 1 The capillary system of the endometrium in development greatly outranks the two other systems, namely, the subperitoneal and the intramuscular (Werth, Freund), as the largest portion of the arterial blood entering the uterus passes through the capillaries of the endometrium 2 While the capillaries of the two latter systems, on account of their situation between the muscle fibers, are directly compressed by the contracting muscle, such a compressing effect is not exerted on the capillaries lying in the mucosa As the result of the passive hyperemic condition and the locally increased blood pressure, therefore, the endometrial capillaries must become dilated and finally will rupture This explanation seems also applicable to menstruation The passive hyperemia, just described as the result of an increased tonus of the uterine musculature, here would be preceded by the active hyperemia of the premenstrual stage, which in itself causes a locally increased blood pressure with a passive dilatation of the capillaries This theory of the mechanism by which certain uterine hemorrhages are started is in harmony with, and is actually supported by, the observation that uterine hemorrhages are common in the presence of all those anomalies which (a) cause an increase in the general blood pressure, (b) produce an active or passive hyperemia of the pelvic organs, or (c) impair the integrity of the endometrial capillaries The theory offered in this paper explains, in an apparently satisfactory manner, the appearance of a uterine hemorrhage (including normal menstrual flow), the sudden cessation of an existing hemorrhage, an amenorrheic condition, menorrhagia, and finally certain forms of uncontrollable or intractable metrorrhagia

27 **Scopolamin Morphin Anesthesia in Gynecology**—Ries concludes from his experience that scopolamin morphin anesthesia is with certain restrictions, of great advantage to the patient as well as to the operator, and that its judicious use can be safely recommended

30 **Placental Attachment**—Drennan points out that the villi of the fetal placenta are inserted into the interglandular spaces of the maternal placenta so that the capillaries of the one do not come into direct contact with those of the other, and that the fetal and maternal blood do not mingle but that an osmotic interchange takes place as in the lungs, where the blood does not come directly into contact with the air The cells lining the uterine glands secrete a mucus, and this with the secretion from a breaking down of the lining cells of the interglandular spaces, is interposed between the maternal and fetal portions of the placenta At the time of delivery this if the condition is normal, is readily absorbed, and the villi of the

canal forming abnormal products which probably so affect the glycogenic function of the liver as to lead to improper storage therein of the glucose from the alimentary canal during digestion." They consider that in the treatment of diabetes steps should be taken to eliminate or suppress this intestinal organism

Undulant Fever in the Goat in Malta

By DR T ZAMMIT, CMG, MD

Annals of Tropical Medicine and Parasitology March 31st, 1922 p 1

DR. ZAMMIT shews that some 5 per cent of Maltese goats still remain infected with *B melitensis*, the percentage having dropped from 14 1 per cent in 1907-1908 The civil population in Malta however are still accustomed to have their milk drawn straight from the familiar goat at their doorsteps, and still suffer considerably from Undulant fever Periodical inspection and testing of goats was introduced but only some 6,000 can be inspected annually, and even then compensation to owners of infected goats costs the Government some £500 to £700 a year In 1906, it was proposed to treat infected goats with a melitensis vaccine using two injections of from 200 to 400 million cocci The technical staff of the Public Health Department, however find that this does not result in immunity whilst the author, after "a very long experience of goats both normal and infected with *M melitensis* has never known an infected goat to recover" After kidding goats which have apparently been free from infection for as long as two years may still give a milk teeming with melitensis

Whilst the disease has been banished from the naval and military forces in Malta the notified number of cases among the civil population in 1919-20 was 619 with a case mortality of 5 1 per cent "Goats are not susceptible to cure, and even were a cure possible their treatment would in the happiest event be long and costly more costly than the animal itself If an adequate inspection staff were provided and no expense spared the fever would disappear from the island in a short time"

A note on the Sterilisation of Surgical Instruments

By EVERETT S SANDERSON

Journal of Laboratory and Clinical Medicine March 1922 p 360

DOCTORS and even bacteriologists in a hurry are not unaccustomed to rely upon dipping into alcohol and flaming to sterilise instruments, glassware and basins Dr Sanderson's experiments shew that such a procedure is not always to be relied upon Glass rods were dipped into thin emulsions of non-sporing organisms such as *staphylococci streptococci and B coli* They were then allowed to dry, dipped into methyl alcohol, flamed and then tested on agar and broth. The results shewed complete sterilisation When spore-bearing organisms were tried, however, such as tetanus and anthrax, the method failed in every instance. The method also failed for anærobic bacilli A chemical thermometer was taken and dipped into methyl alcohol and flamed The temperature rose to only 69 degrees C , with ethyl alcohol to 60 degrees C , with a mixture of one part of formalin to three of methyl alcohol to 133 degrees C and the solution burnt for a longer period than in the former two cases Using the spores of *B anthracis* and *B cereus* this mixture was next tested in the same manner In two out of 35 tests it failed to effect complete sterilisation Whilst this mixture gave far better results than did either alcohol separately, yet even it cannot be absolutely relied upon, and if blood or grease be present on the instruments the sterilisation is less effective.

Infectious Abortion of Cattle and its possible relation to Human Health

By L E W BEVAN MRCVS, Government Veterinary Bacteriologist, S Rhodesia *Trans Royal Soc of Tropical Medicine and Hygiene*, 19th January, 1922, p 215

INFECTIOUS abortion of cattle is a most important disease from the economic point of view The author records that the annual losses due to this disease in New Zealand amount to £300,000, whilst in Rhodesia at present epidemic conditions prevail The microbial cause of the disease *Bacillus abortus* was discovered by Bang and Stroibolt in 1896, whilst the further work of McFadyean and Stockman confirmed its causal connection with the disease In 1918 Evans pointed out the very close resemblance of this organism to *M melitensis* the cause of Malta fever in man and goats, whilst in 1920 Meyer and Shaw claimed that the two organisms were identical. In February, 1921 a patient suffering from fever was admitted to the Salisbury Hospital and his serum gave a positive agglutination to *B abortus* up to a titre of 1 in 200 Other cases have more recently occurred in Southern Rhodesia where the clinical symptoms are those of undulant fever, but where infection from goats can apparently be excluded, although the patients resided on farms where infectious abortion occurred among the cattle Abortion is often a characteristic symptom among goats and sheep suffering from *M melitensis* infection

The author sums up by suggesting that there may be a connection between infectious abortion in cattle and sheep and undulant fever in man , that human females may contract the disease through the ingestion of the milk of animals which have suffered from infectious abortion As yet, however, although the suggestion is an interesting one, no final proof is available, and the thesis remains to be proved or disproved

Reviews.

SELECTED WORKS OF THOMAS SYDENHAM, MD, with a Short Biography By JOHN D COMRIE, MD, FRCP, Edin John Bale, Sons and Danielsson, London 8|6 net

THIS little book is a treasure house of delightful reading Sydenham, 1624—1689, has been described as "the prince of English physicians" and "the English Hippocrates" Dr Comrie's book includes a short biographical memoir, a list of Sydenham's works and bibliography, and a selection of his more famous writings One of the best stories in the book is that of a wealthy patient whom Sydenham had been attending for some years As his complaint was chiefly imaginary Sydenham advised him to travel to Inverness to see a celebrated "Dr Robinson," who had made a special study of his disease The patient started out from London on what was in those days a long and difficult journey Some time afterwards Sydenham met him on his return to London, and after he had failed to find the imaginary "Dr Robinson" "Are you better?" enquired Sydenham "Yes," replied the patient "I am now quite well, but no thanks to you" Whereupon Sydenham pointed out that the cure was due first to the patient's anticipations of the benefit which he would derive from "Dr Robin-

prevent the creation of degenerates He refers to the Indiana marriage law on this subject, and gives the text of a new bill authorizing operative measures for the prevention of procreation by degenerates Vasectomy is the operation approved

Montreal Medical Journal

49 Biblical Medicine and Hygiene H B Murphy Lansdowne, Ont
50 Machine for the Forcible Correction of Deformed Feet. J A Sutter
51 *Tabes Dorsalis and Its Re educative Treatment. C K. Russell Montreal
52 Epidemic Cerebrospinal Meningitis. J G Browne Montreal
53 *Renal Tuberculosis R P Campbell, Montreal
54 *Infantile Scurvy W F Hamilton Montreal

51 Tabes Dorsalis—Russell discusses the various etiologic theories of tabes and considers especially Edinger's exhaustion theory, of which he approves The cells may be congenitally debilitated, or they may become so in consequence of an abnormal amount of work, or because owing to impairment by some circulating toxin the work required of them is relatively too great The toxin, in most cases, is syphilitic in origin, and the neurons normally most active and most constantly at work are those which principally suffer, namely, the sensory nerves from the muscles that take an important part in the regulation of muscular contraction Naturally, these are chiefly in the lower extremities, but instances are given showing that this theory accounts for occasional affection of the upper extremities and explains skin, mucous membrane and eye symptoms, especially the Argyll Robertson pupil, bladder disturbances, etc, consequently it is no longer necessary to consider every tabetic as a syphilitic Trauma, exposure to cold and wet, excesses, may all be predisposing causes, and the exacerbations following exhausting illness are thus explained The relation of tabes to sex, also, thus becomes explicable, as well as the relative immunity of certain colored races For treatment, rest and watchfulness against over exertion improvement of the general condition and metabolism, emptying of the bladder every three hours, the correction of errors of refraction, and the use of colored glasses in a strong light, are recommended Massage and faradic stimulation of muscles on alternate days, to stimulate metabolism in lieu of exercise, are required He then describes the exercises, consisting of the practice of various movements by ataxic limbs, at first under the guidance of the eyes The exercises, which should be undertaken not oftener than twice a day, are practiced, respectively, in the recumbent and sitting positions and by walking on a specially figured strip of linoleum

53 Renal Tuberculosis—Campbell reports 12 cases, 3 in women, 9 in men, from which he concludes that 10 at least were cases of primary renal tuberculosis He considers primary tuberculosis of the bladder rare While renal tuberculosis is, in his opinion, clinically primary, pathologically the true primary focus may lie in some obscure lymph gland The early diagnosis of unilateral, primary renal tuberculosis should render prognosis favorable

54 Infantile Scurvy—Hamilton says that the anemia, the restlessness or fretfulness when handled, the presence of blood in the urine, and unaccountable blood in the feces, should lead one to look carefully at the food the child is taking and should make one suspicious of early scurvy If these cases do not develop into pronounced scurvy, the explanation may possibly lie in individual resistance

Journal of the Medical Society of New Jersey, Orange

February

55 Value of the Leucocyte Count as a Diagnostic Aid. J W Martindale Camden
56 *Diagnosis of Chronic Endocarditis Prior to Disturbance in Compensation L. G Rowntree Baltimore
57 Treatment of Cancer by the X rays G L Fahler Philadelphia
58 Sudden Death in Early Childhood A Stern Elizabeth
59 Hygiene of the Oral Cavity H H Sherk Camden

56 Chronic Endocarditis—Rowntree discusses the importance of routine in order to secure accurate diagnosis He then discusses separately the physical examination for mitral incompetency mitral stenosis and aortic regurgitation True organic mitral regurgitation conforms to the following picture 1 Soft blowing systolic murmur, best heard at apex, but transmitted to axilla and to angle of left scapula, 2, accentuated pulmonic second sound, 3, enlargement of the heart—apex displaced downward and to the left, so that inspection and auscultation afford the greatest information in this condition In mitral stenosis the chief clinical findings are (1) a presystolic thrill, rough grating, felt in fourth or fifth interspace inside nipple line, ending in (2) a sudden, snappy shock, synchronous with ventricular systole, (3) a rough presystolic murmur heard in and usually limited to the area of thrill, ending in (4) a loud, snappy first sound at the apex, (5) accentuation of second sound in pulmonary area Aortic incompetency presents the following group of signs 1, The greatly displaced apex beat, 2, a long drawn diastolic murmur heard at the base of the heart and best in the aortic area, 3, pulsating vessels in the neck, and 4, the water hammer pulse of Corrigan

Texas State Journal of Medicine, Fort Worth.

February

60 *The Unsuspected but Dangerously Tuberculous Cow E C Schroeder
61 Dermoid Cyst Complicating Labor W M Vater Cleburne
62 Cerebrospinal Meningitis M L Graves Galveston
63 Foreign Bodies as Etiologic Factors in Appendicitis F S Barnes Trinity

60 The Tuberculous Cow—Schroeder points out that the dangerously tuberculous cow may long retain the appearance and general semblance of good health The present methods of detecting the presence of the bacillus are too crude to insure positive results unless the bacilli are numerous, wherefore he insists on the necessity of employing the tuberculin test The danger from tuberculosis among dairy cows is not confined to the use of milk as a beverage It is transmitted to other articles of food prepared with it, especially butter The public must be aroused to its obligation, if not for its own sake, at least for that of children, among whom the frequency of tuberculosis due to milk from tuberculous cows is considerable After years of observation, the tuberculin test has been shown to be a more nearly infallible means for diagnosing tuberculosis than any diagnostic measure for other diseases of men and animals Our dairy herds can be cleaned of tuberculous cows by the proper application of the tuberculin test and the segregation of all reacting animals

Northwestern Lancet, Minneapolis

February 15

64 Inguinal Hernia—Types of Operation—Results in 1 652 Cases I S Judd Rochester Minn
65 Present Status of Smallpox in Minnesota H M. Bracken St Paul
66 *Medical Fees S M Hohf Yankton S D
67 *Appendicealgia or Non Inflammatory Diseases of the Appendix F E Walker Hot Springs S D

March 1

68 Care of Premature Infants with Special Reference to the Use of Home-Made Incubators J C Litzenberg Minneapolis
69 President's Address to Hennepin County (Minn.) Medical Society J L Moore Minneapolis
70 From a Business Standpoint A D Holdale Tracy
71 Hyoscin Morphin Cactin Anesthesia W I Lee Fairfax

66 Abstracted in THE JOURNAL, March 14, 1908, page 907

67 Non Inflammatory Disease of the Appendix—Walker describes a condition of pain in the abdomen usually referable to the right iliac region, due to a pathologic condition of or within the appendix, and unaccompanied with an increased pulse rate or rise in the temperature The etiologic conditions are given as congenital deformities of the appendix, such as twists, shortened mesentery, absence of a mesentery, angulation, flexions attachment of the distal end of the appendix to the peritoneum, mesentery, or other abdominal organs, narrowed lumen, contractions, foreign bodies within the appendix, constipation, digestive disturbances, overwork, overexercise, especially of the right side, over indulgence in food, injuries and neurosis. A classification of 300 patients operated on for appendicular conditions gives 34, or 11 33 per cent, of subjects coming within this class, in which there was absolutely no clinical evidence of trouble other than continued pain The types are divided into 1, Those with constant but mild pain 2 constant pain with frequent exacerbations, 3, periodical pain The author admits the likely possibility of

surgery, electricity and X-rays Thus in tubercular glands of the neck he recommends radiation as the first line of treatment, the residual infection being dealt with by the surgeon Post-operative raying is to-day coming into its own in carcinoma Plastic surgery often calls for the assistance of the radiologist Like Naaman the Syrian, the medical generation of to-day is too apt to look for some great thing rather than to utilise the simpler measures which lie at hand "General practice is in reality the only logical form of practice But no human mind can compass the whole field of medicine Hence the hope of the future lies in specialism tempered by co-operation" We are reminded of a distinguished clinician who remarked that "Osler" will probably be the last of the English classics on general medicine Dr J D Mortimer writes on the after-effects of anaesthetics, and the whole lecture should be carefully studied by anaesthetists It is of little use for distinguished surgeons to ask the anaesthetist whether he cannot do "something to avoid this horrible after-vomiting" when their own activities have largely contributed to producing it Dr Wilfred Harris's lecture on Chronic Paroxysmal Trigeminal Neuralgia and its treatment must be read *in extenso* He has made the study of this condition and its treatment by alcohol injection of nerve roots and of the Gasserian ganglion so specially his own that every word of the lecture is authoritative Two interesting points in his excellent lecture are his test by novocain as to whether the needle has reached the proper spot and the fact that gelsemium is the only drug which is of any efficacy when given orally in this condition Writing on pyorrhœa alveolaris Dr N Mutch gives an interesting analysis of the bacterial state of the intestine In the mouth, duodenum and jejunum *streptococci* are present, but, as a rule *B coli* is absent At the lower levels the proportion of streptococci diminishes and that of *B coli* increases so that *streptococci* are practically absent from the pelvic colon Roughly there are two classes of *streptococci* in these intestinal infections one of high virulence and associated with acute infections the other—and more important—sugar-loving or glycophilic and with strong saprophytic powers With stagnation and starch dyspepsia the latter flourish and this intestinal association is especially connected with pyorrhœa In such conditions the author recommends colloidal sulphur and a combination of ammonium ichthyo-sulphurate with proteins "Morbid Mental Growths" by the late Sir George Savage is a presentation of states of delusion verging on paranoia One of the cases given is that of a man, once bitten by a dog and subsequently treated at a Pasteur Institute, who became possessed by a morbid fear of dogs Two whole-time nurses were employed to keep every dog away from his room and to look for dogs' hairs on the carpets The case ended in an asylum Such morbid mental growths may spring from very simple delusional ideas affecting only the individual and may end in homicidal or suicidal mania Finally come two useful lectures by Mr W H Trethowan on deformities and disabilities of the feet due to static and mechanical causes and to paralysis Here there is a wealth of information for the general practitioner on a subject of every day importance a discussion of the various causes of lameness and of their modern treatment

"Post Graduate Lectures" is an admirable volume, and should become one of the best known annual British publications

R K

MEDICAL AND SURGICAL REPORTS, EPISCOPAL HOSPITAL, Philadelphia Wm J Dornan Press, Philadelphia. Vol V 1920 By ASTLEY P C ASHHURST, M D

THIS beautifully illustrated and well got up volume is the fifth of an annual series, interrupted by the war With an average of 294 inpatients a day and 222 out-patients there is associated a visiting staff of 58 physicians and surgeons and assistants, and a resident staff of 17 As a result this collection of papers is one of special merit and interest Dr Ashhurst reviews a series of 18 cases of tetanus, dealing with every aspect of the disease He also describes four cases of gunshot wounds of the vascular system including one of ligature of the first portion of the subclavian artery for a bullet-wound of the axillary artery Dr Bruce Gill writes a valuable paper on plastic, reconstructive surgery of the hand and forearm and also contributes a remarkably successful case of cure of Dupuytren's contracture In the latter condition he makes a transverse incision across the hand along the distal palmar crease, dissects away the entire palmar fascia and places a free fat transplant from the thigh smoothly beneath the palmar skin The cosmetic and functional results are excellent Dr Ashhurst's paper on screw fixation in joint fractures is profusely illustrated by *radiograms* Dr C B Squires writes on spontaneous pathological fracture—"Result of excision of the left hip for acute osteomyelitis, ten months after operation Stable joint, 1 cm shortening, moderate range of movement" is one that he may be congratulated on A valuable paper on tuberculous bone and joint disease in children is followed by an interesting account of birth injuries to the shoulder

A case of Jacksonian epilepsy due to an endothelioma of the right cerebral hemisphere successfully removed by operation, and papers on lethargic encephalitis, are followed by an interesting paper by Dr Hooker on the association of leukoplakia with syphilis The author considers that only a very small number of cases of leukoplakia must be considered as non-syphilitic and comments on the influence of alcohol and tobacco in causing the condition In dealing with epidemic

103 Pneumonia R S Martin Stuart
104 Electrotherapeutics in the Commoner Diseases. F K. T Warrick Richmond

American Journal of Urology, New York.

February

105 Surgery of the Prostate H J Scherck, St. Louis
106 A Good Working Plan for the Treatment of Chronic Gonorrhea E. Reissman, Newark N J

Denver Medical Times

February

107 Featural Surgery F E Waxham Denver
108 The Permanent Frown and Its Surgical Eradication C C. Miller Chicago
109 A Case for Venesection A. T Monismith Fort Lupton Colo
110 Report of One Hundred and Fifty Cases of Pulmonary Tuberculosis J D Gibson Denver
111 Rational Treatment of Pneumonia. J Burke Manitowoc, Wis

March

112 Acute Gonorrhea W H. Davis Denver
113 Symptoms and Diagnosis of Influenza H. W Rover Denver
114 Eye Complications of Influenza G F Libby Denver
115 Throat Nose and Eye Complications of Influenza R. Levy, Denver
116 Purulent Pericardial Effusion H B Whitney Denver
117 Surgical Sequelæ of Influenza L Freeman, Denver
118 Therapy of Influenza M Kleiner Denver
119 Laboratory Diagnosis for the Practitioner J C Todd Denver

Utah Medical Journal, Denver

February

120 Surgery of the Thyroid Gland (concluded) A C Behle Salt Lake City
121 Treatment of Compound Fractures R S Joyce Ogden
122 Atropin R. J Smith Schenectady N Y

March

123 Knee-Joint Disease H M Mayo Salt Lake City
124 Treatment of Sciatica. A S Bower Salt Lake City
125 X Ray Treatment of Skin Diseases E D Hammond Salt Lake City
126 Tuberculosis and Phthisis F Clift Salt Lake City

Buffalo Medical Journal

March

127 Present Status of Physiologic Therapy in Medical and Surgical Practice S H Monell New York
128 Feeding in Tuberculosis J R L Daly New York
129 Lipoma Arborescens of the Knee Joint. R. O Meisenbach, Buffalo
130 Extracts from a Doctor's Ledger B H Colegrove New York
131 Experiments on the Application of Suprarenin in Obstetrics M Neu Heidelberg Germany

FOREIGN

Titles marked with an asterisk (*) are abstracted below Clinical lectures single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest

Lancet, London

February 22

1 *Progenetic Activities of the Pneumococcus J W H Eyre
2 *Functions of the Stomach and the Operation of Gastroenterostomy H M W Gray
3 *Night Blindness J H Parsons
4 Aneurism of the Femoral Artery in a Man Aged 78 in Which Suppuration Took Place from Pneumococcal Infection, Recovery H H Clutton and L S Dudgeon
5 Three Cases of Poisoning by Carbonic Oxid One Recovery R S Pearson
6 Method of Roentgen Examination in Cases of Uri[illegible] culus. C J Morton
7 *Dammed Circulation and Interr[illegible] Nomenclature W Ewart

1 The Pneumococcus—[illegible] primary, pathologically the [illegible] knowledge of [illegible] may lie in some obscure lymph gland. The [illegible] diagnosis of unilateral, primary renal tubercu[illegible] render prognosis favorable

54 Infantile Scurvy—Hamilton says [illegible] restlessness or fretfulness when [illegible] in the urine, and unaccountable [illegible] one to look carefully [illegible] make [illegible]

[illegible] pneumococcus and catalogues the various [illegible] that have been given to it eighteen in number, three of [illegible] which have survived viz *Pneumococcus Diplococcus pneumoniæ*, and *Streptococcus lanceolatus* Among the lesions that have been occasioned by the pneumococcus are meningitis, ulcerative endocarditis suppurative pericarditis, pleurisy otitis media, arthritis peritonitis localized abscess conjunctivitis epiphysitis osteomyelitis periostitis and necrosis, thyreoditis parotiditis tonsillitis (follicular and membranous) gastritis nephritis and perinephritis endocervicitis etc He describes the characteristics and types of coccus, the degree of virulence and the toxic dose and then discusses the important factor of cell resistance of the subject attacked, which he considers contains undoubtedly the solution of the problem given by the varying nature of the lesions produced by one organism He then discusses the applications of Wright's work to the pneumococcus and the production of antipneumococcic serums The latter while useful never reached the measure of usefulness attained by diphtheria antitoxin but by the use of killed cultivations or "vaccines" a much greater measure of success is attained.

2 The Stomach and Gastroenterostomy—Gray sums up his conclusions as follows 1 The cardiac and pyloric portions the stomach are distinct in development, structure and pathology 2 During the early stage of gastric digestion the pylor portion is normally empty and tonically contracted W[illegible] food has attained a proper chemical reaction in the cardia enlargement it passes into the pyloric portion 3 Bearing this in mind, care should be taken in performing gastroenterostomy to make the opening in the stomach wall within the pylo[illegible] portion, as near the pylorus as possible If the stomach has not irremediably lost its muscular power, this will provide against an "uncontrolled escape of the acid gastric contents," asserted by some to occur in cases of gastroenterostomy If pyloric spasm is present the opening will act as a safety valve and remove the spasm If pyloric stenosis exists, the natural condition of things will be most nearly approached, and the "regulating action" (Pawlow) of the pylorus, so necessary to perfect digestion, be most nearly approximated

3 Night Blindness—Parsons explains night blindness as follows In night birds the retina contains only rods, no cones Visual purple is associated with the rods only, and is absent when they are absent With low illumination in man there is more rapid depreciation of central than of peripheral vision, so that vision under these circumstances is principally carried out by the rods Form sense, dependent on the cones, quickly diminishes in passing from the point of fixation toward the periphery, but at night, acute appreciation of variation of light and shade is more important than accurate delineation of objects The cones, of course, do not escape destruction in the affected zonular area in retinitis pigmentosa, but their loss is discounted by their relative unimportance in that region A group of cases deserving special notice is that associated with jaundice, bile salts are a solvent of the visual purple A fact hard to correlate with the cases occurring with jaundice is that the night blindness common among badly nourished natives in India disappears when they are fed on liver, a mode of treatment advocated in the Ebers papyrus (B C 1500)

7 "Dammed Circulation."—Ewart commenting on the suggestion of Allen (*Medical Record*, Jan 4, 1908, abstracted in THE JOURNAL, Jan 18, 1908, page 237) to adopt the original German expression, *Stauungs Hyperämie*, in place of the various terms now in use to denote Bier's constriction method, objects that the German term is not original but is itself an inadequate translation of the prior English term "dammed circulation" He suggests "Bier's dammed circulation"

British Medical Journal

[illegible] Minnesota H M
St Paul
66 *Medical Fees S M Hohf Yankton S D
67 *Appendicealgia or Non inflammatory [illegible] F C Walker H[illegible]

February 22

8 *Abdominal Tumors Simulating Malignant Disease and Their Treatment. A W M Robson
9 Surgical Aspects of Subphrenic Abscess H L Barnard
10 *Incidence and Spread of Cancer G L Cheatle
11 Form of Oral Filter to Be Worn During Operations by All Persons Inside the Operating Room C E. Duncan
12 Appendicitis at Sea, with Remarks on the Surgical Equipment of the Mercantile Marine A E Johnson
13 The Ocular Reaction for Tuberculosis A. D Roe.
14 Urotropin in Night Blindness. S Mallannah.

8 Tumors Simulating Cancer—Robson refers to five patients sent to him, suffering from supposed cancer of the rectum or sigmoid with obstructive symptoms necessitating a colotomy, in whom, after periods varying from one to three years, he had to close up the artificial anus because of the disappearance of the supposed growth In a subsequent case, remembering his former experiences, Robson decided to wait, keeping the bowels open and administering belladonna and nux vomica, the patient recovered completely These cases he regards as probably chronic infiltrating colitis associated with pouches of lodging fecal matter, or perhaps simply due to infection spreading through the intestinal wall Other cases were pouched cecum with hard fecal concretions (removed) chronic tuberculous tumors, stone in the ureter, a case apparently cancer of the esophagus, in which gastrostomy was performed, the patient being alive seven years later and occasionally resorting to feeding through his gastric stoma, the diagnosis remaining still doubtful Robson states that h

especially written as likely to prove a useful and satisfactory guide in this branch of their practice The chapter on the examination of patients contains many valuable hints which cannot fail to be useful and likely to save the practitioner much trouble if acted on Stress is rightly laid on medical treatment and a large number of useful prescriptions are given for the more common ailments met with in gynæcology for which operative measures are not indicated The directions given for the treatment of venereal disease are especially clear and tersely put The chapter devoted to the various more common gynæcological operations is succinctly written and amply full enough for a work of this kind and the succeeding chapter on the after treatment of operation cases contain much useful information The section dealing with after results of operations includes much that will enable the doctor to deal satisfactorily with the queries so frequently put to him by the patient and her relations as to what are likely to be the ultimate results of any particular operation, and what risks are incurred in the operation itself The book closes with a useful appendix concerning special remedies which, though in many instances not much known are likely to be of use in suitable cases

In conclusion the book is well and clearly written printed in good bold type and amply illustrated

J C H LEICESTER

"THE PLACE OF VERSION IN OBSTETRICS" By IRVING W POTTER MD FACS St Louis C V Mosby Co Pp 138 Illustrations 42

THE author of this work is well known in the Obstetric world as a keen advocate for the operation of version, not only for special cases but more or less as the routine treatment for the termination of labour In this book he sets forth very fully his arguments in favour of this teaching together with the criticisms that have been directed against it and his replies thereto He also gives a very full summary of the history of version A chapter is devoted to the special technique he has evolved for the performance of version and statistics of the results he has obtained We may say at once that Potter's method of performing version, and the after delivery of the child, appear to us to be a distinct advance on the usual methods as taught in the text books on Midwifery We also agree that version has not been given the place it deserves in obstetrics by most authorities and that its more extended use would undoubtedly be of benefit to many cases in which now other methods of delivery are adopted At the same time we do not think it is the method of choice for delivery in most normal cases of vertex presentation as not only the great difficulty of assuring the very high standard of asepsis necessary, but also the question of having a fully qualified anaesthetist in attendance would prove drawbacks to its general adoption in private work

Moreover until the average practitioner is far more highly trained than at present, it is certain that its general adoption would increase the mortality of both mothers and children We can, however, most cordially recommend the book to all those who practise obstetrics, as a most interesting and stimulating volume It is exceedingly well-written and gives much food for thought, and even if one does not agree with all the author teaches, one must acknowledge that he undoubtedly makes many points of great value in practical midwifery The printing illustrations and general "get up" of the book leave little to be desired

J C H L

THE CAUSATION OF SEX IN MAN By L RUMLEY DAWSON Third Edition, London H K Lewis & Co, Ltd, 1921 Price 7/6 net

IN his preface to the Second Edition the author points out that 'those who desire to study the Human Family *must*—as was stated in *The Mendel Journal*—"quit the experimental garden and cloister, and pass out into the world of his fellows"

The author's Theory of the Causation of Sex in Man has one or two new features The first is that the sex of the child depends on the ovary from which the fertilised ovum comes—the right being responsible for males and the left for females Contrary to modern biological work he holds that each ovum has its own definite and unalterable sex' Furthermore only one ovum is produced at a time and the right and left ovaries usually function alternately, thus maintaining within narrow limits the balance between the sexes

The theory is supported by cases where one ovary was removed showing the influence on the sex of subsequent children, cases of extra-uterine pregnancy and investigation of families where one sex predominated Ingenious explanations are furnished of the excess of male births and multiple pregnancies

The most important outcome of the Theory, assuming its correctness would be the determination of sex at will, an end which could be brought about after the birth of the first child, by avoiding intercourse during months when the ova are known to produce the undesired sex

There are certain contingencies, however, which prevent one accepting this theory unreservedly In the first place the author does not even mention the accessory chromosomes nor the biological work of men such as Julian Huxley Secondly, no embryological, physiological, or anatomical explanation or reason has been suggested why the right ovary should be concerned with males and the left with females Thirdly, it is possible that if some enthusiast searched with equal zeal for cases disproving the theory the evidence would pile up against it

Dublin Journal of Medical Science

February

25 The Future Teaching of Practical Midwifery W Smyly
26 Acetonuria. H. B Leech
27 Pulmonary Embolus Following Operative Interferences. C G Cumston
28 Treatment of the Epileptic. E T Jameson.

Bulletin de l'Académie de Médecine, Paris

February 4 LXXII, No 5 pp 129 160

29 *Radium Treatment of Vascular Nevi. Fournier
30 *Dangers for Public Health from Arsenical Insecticides in Agriculture. P Cazeneuve

February 11, No 6 pp 161 212

31 *Emergency Medication by Reduction of Amounts of Fluid in Body (Médication d urgence par la réduction des liquides) H Huchard and C Flessinger
32 *Influence of Chilling in Etiology of Tetanus (Tétanos rhumatismal) H. Vincent

29 Radium Treatment of Vascular Nevi.—Fournier supplements his previous communication on this subject, summarized in THE JOURNAL, March 7, 1908, page 800, by stating that the radium is applied to a flat nevus daily for several consecutive hours, or the treatment is divided into hours or half hours The nevus loses its color—after the reaction—in from six weeks to two months, approximately For the angiomatous nevus the exposures are short, but frequently repeated, with longer or shorter intervals of suspension at the first sign of a reaction The entire course of treatment in this form may *require several months*

30 Dangers of Arsenical Insecticides.—Cazeneuve calls attention to the danger to the public health from the widespread use by farmers and market gardeners of paris green and other insecticides with an arsenic base Besides the danger of direct poisoning from fruits and vegetables thus treated, the rains may wash the arsenic into the wells or springs He cites an instance of multiple poisoning from the use of wine for which he thinks the insecticide with which the vines had been treated was probably responsible, he also quotes instances of rabbits killed by grazing under a vine recently sprayed with an insecticide

31 Emergency Medication by Reduction of Fluids in the Body.—Huchard compares the effect of reduction of the fluids in the body to that of venesection in acute edema of the lungs —both are liable to ward off impending death and tide the patient past the crisis He refers especially to the acute dilatation of the cavities of the heart in the course of certain valvular and heart affections, especially mitral lesions complicated by aortic insufficiency, fatty degeneration of the heart and "beer heart" As a rule, in arterial cardiopathies the patients are told to drink freely and to take plenty of milk, to favor the elimination of toxic elements When the dilatation of the heart increases and becomes permanent, and the veins become irremediably dammed up, ingested fluids do not pass out through the kidneys, but remain in the tissues, flooding the blood, raising the pressure in the veins and distending the heart more and more, thus augmenting the dyspnea, the edema and the asystolic symptoms, against which digitalis and other drugs are impotent At this perilous moment the indications are to reduce the amount of fluids in the body by reducing the intake An injection of morphin may be useful as an adjuvant, it reduces the congestion in the kidneys and thus indirectly promotes diuresis Nothing should be allowed the first day but a pint of milk and a quart of water, mixed, to be taken in wineglassful doses every hour, the second and third day half milk and half water, and by the fourth day some solid food is allowed At the same time the patient should take digitalin, 0 0001 gm (1/640 grain)—the crystallized form—daily for ten days, then intermit five days and resume for five or ten days This obviates all danger of cumulative action Theobromin "the dechloridating agent" should be taken at the same time about 15 grains a day, in divided doses The amount of urine generally increases to about three quarts a day and then gradually subsides to about three pints in proportion to the amount of edema to be absorbed It may be necessary to tap an effusion or hard edema in the legs but once the obstacles are removed diuresis occurs If it does not appear even under 4 grains (0 26) of caffein a day then the prognosis is grave

32 Chilling in the Etiology of Infectious Diseases, Especially Tetanus.—Vincent relates experimental research which demonstrates anew that peripheral local chilling is an extremely powerful adjuvant to infection with tetanus The peripheral local chilling arrests for the time the vital processes in the member chilled The local defensive activity of the leucocytes is annulled, and the germs of infection then are able to make inroads A combination of various secondary causes may open the portals to infection when neither alone would accomplish it

Presse Médicale, Paris

February 12, XVI, No 13 pp 97 104

33 *Diagnostic and Therapeutic Importance of Esophagoscopy M. Guisez
34 Disinfection of Uterus in Puerperal Infection A. Schwab

February 15, No 14 pp 105 112

35 Lower Segment of Uterus C Jeannin
36 Can Roentgen Rays Generate Cancer? G Haret.
37 Palpation of Normal Stomach G Fischer

33 Advantages of Esophagoscopy.—Guisez gives an illustrated description of his experience with 300 applications of the esophagoscope He says that with a little cocain the introduction of the tube is not painful nine times out of ten Many affections formerly deemed incurable, such as spasm, idiopathic dilatation, and cicatricial and congenital strictures, can be effectually cured or their effects remedied by the aid of esophagoscopy

Revue de Gynécologie, Paris

December, 1907, XI No 6 pp 963 1152

38 Female Epispadias and Its Surgical Treatment. G Nové-Josserand and G Cotte
39 Symtomatology and Nature of Genito-ano-rectal Sclerema, 13 Cases (Esthiomène de la vulve) R. Dupuy and G Rullier
40 *Lessons from Five Hundred Gynecologic Operations. F Jayle

40 Lessons Learned from 500 Major Gynecologic Operations.—Jayle reviews a continuous series of 500 operations for inflammatory processes or neoplasms in the uterus or adnexa, summarizing in conclusion the causes of death His experience indicates that the vaginal route is as dangerous as the abdominal one from the point of view of infection from without Two patients succumbed to infection from the use of insufficiently sterilized compresses They had been placed in the autoclave but not heated sufficiently, the "control tubes" usually placed in the compresses having been forgotten Fatal endogenous infection was observed only with fetid or gaseous pus and in cancer of the cervix. Postoperative hemorrhage was always traced to slipping of the ligature on the infundibulo pelvic ligament. Acute dilatation of the stomach followed several operations, the patients had always suffered previously from gastric disturbances, with much gas, and none had vomited after the operation To prevent this complication Jayle examines the stomach and keeps the patients on a strict diet, administering ferments, such as lactic and paralactic bacilli, and after the operation he supervises the stomach very carefully, especially if the patient does not vomit The delay of even a few hours before resorting to lavage of the stomach may prove too late to save the patient The fluid found in the acutely dilated stomach was sometimes almost exclusively bile Fatal embolism occurred in three cases Jayle believes that refraining from injury of large vessels and absence of infection will render embolism less frequent Total hysterectomy is less liable than the partial to be followed by embolism owing to the better drainage He warns further to refrain from the Trendelenburg position in case of fat women, or at least, to use it as briefly as possible The heart is generally soft and flabby in these women, and with the head low they become cyanosed, and are liable to succumb a few days later to heart failure. Since he has refrained from raising the pelvis in such cases he has ceased to have cardiopulmonary disturbances of this nature His experience emphasizes the necessity for tapping ascites two or three days before the laparotomy in case the effusion is estimated at three quarts or more Reflex heart trouble is liable to appear when this rule is disregarded When the kidney is not functioning well in much debilitated patients he prefers ether to chloroform to avoid the toxic action of the latter on the kidney

hypodermically but may even be reversed by the lymphatic glands and this reversal is believed to explain the "skin-drying" and "nerve steadying" action of emetine and the antispasmodic action of adrenalin when given hypodermically in asthma Antidiphtheritic serum has a very high hormone content in addition to anti-toxin and the oral administration of this serum has produced wonderful results in quite a number of varied symptoms and diseases Though Dr Paton is "not prepared to change his practical methods of treatment" as detailed in his books, yet we believe that any one who set to work might find other and quite different explanations for the results obtained But it is also to be observed that it is mainly by the accumulation of clinical evidence that our knowledge may be expected to take a more definite shape in this direction

S C S

EXOPHTHALMIC GOITRE By WALTER EDMUNDS, M.A M Ch (Cantab) F.R C S, London Bailliere, Tindall & Cox Price 3*s* 6*d* net

THIS little brochure is from an interesting and learned lecture delivered at the North-East London Post-Graduate College on April 27, 1921, by the author It summarises in a brief and lucid manner all the up-to-date knowledge regarding the thyroid and parathyroid, including the author's own observations and experiments The author believes that the probable causes of the fatalities after operation are "firstly, that the operation had been delayed till an advanced stage of the disease, and, secondly that the manipulation of the goitre had caused the expression of thyroid secretion which was absorbed into the system" As to specific treatment the author considers that a cure should be sought by the administration of calcium or possibly of strontium The volume contains an exhaustive list of references and will be of great help to those who want to make a special study of the subject

S C S

PRACTICAL CHEMICAL ANALYSIS OF BLOOD By VICTOR CARYL MYERS, M A, Ph D C V Mosby Company, St Louis, 1921 Price 3|- net

SINCE 1912 rapid advances have been made in the field of the biochemistry of the blood and this book presents briefly a discussion of the chemical blood determinations which have been found of definite value in the diagnosis and treatment of disease In the laboratory part of the book a single method for each determination has been given

A number of practical questions which may arise in connection with the chemical analysis of the blood for diagnostic purposes are discussed in the appendix, and in this section are also given literature references for other blood determinations This little book serves a useful function in indicating why and how certain chemical blood analyses should be made and it will be of great help to those working in the line

S C S

PHYSICAL DIAGNOSIS By W D ROSE, M D, St Louis C V Mosby Company Second Edition Price $8 50

IN this volume one finds a clear and readable delineation of the elementary methods of physical diagnosis The physical examination of the respiratory and circulatory organs, together with the commoner diseases of these organs have been fairly exhaustively dealt with and cover about two-thirds of the book Part II deals with the general and special examination of the abdomen and its viscera but the diagnosis of their diseases has not been dealt with separately Part III has been devoted to the examination of the back, neck, and extremities and Part IV to that of the nervous system Two outstanding features of the book are the clearness of the topographical anatomy and the profuseness of the illustrations The book is nicely got up and printed on good paper

S C S

MODERN METHODS OF TREATING FRACTURES — By ERNEST W HEY GROVES, M S, M D, B SC, (Lond), F R C S (Eng) Surgeon to the Bristol General Hospital Second edition Large 8vo Pp 435, with 296 illustrations 1921 Bristol John Wright & Sons, Ltd 30|- net

THE scope of this well-known book has been much broadened as a result of the teaching of the War It deals very fully and ably with a subject that has been much neglected in the past No practitioner can now afford to be ignorant of the principles which are laid down

There are thirteen chapters, and the fourth contains "experimental observations on operative treatment" These have been carried out on animals and afford valuable evidence as regards bone growth and repair There are 296 excellent illustrations and the publishers are to be congratulated on these and on the way in which the whole book has been turned out

No detailed description of the contents of the book is necessary as it is already well known to all practitioners as one of the best works on the subject

F P Connor

INJURIES AND DISEASES OF THE BONES AND JOINTS —By F H BAETJER, M D, and C A WATERS, M D Published by Paul B Hoeber

THIS is a useful book to those who wish to make X-rays work their special study The authors deal with normal bone first, which is very necessary They show clearly how important and necessary it is for a Roentgenologist to know the anatomy and the pathology of the diseases of the bone The differential points in diagnosis have been clearly laid down The divisions of bones according to

morphin, is the preferred technic Spinal anesthesia is given the preference, however, for all operations below the costal arch The scopolamin morphin technic is never used unless the heart is known to be sound and even then great caution is regarded as indispensable with this technic It was applied in 134 cases, with subsequent atony of the intestines in 27 cases Spinal anesthesia was applied in 54 cases, with vomiting in 60 per cent and headache in 90 per cent Chloroform was given in 851 cases, with vomiting in 60 per cent and pneumonia in 13 instances Chloroform plus ether was given in 128 cases, with vomiting in 90 per cent, as occurred also in 45 cases of chloroform plus oxygen Ether plus morphin was given in 201 cases, with vomiting in 20 per cent, and pneumonia in 10 cases

53 **Hernia in Children**—Maass calls attention to the inadvisability of trying to close up the hernial opening in children, as their continued growth soon obliterates it in the most satisfactory manner The main point is to isolate the neck of the sac and ligate it so high that the stump will retract entirely into the abdominal cavity

56 **Surgical Treatment of Chronic Ulcerative Colitis**—Steiner reports two cases in which he succeeded in curing apparently inveterate dysentery by making a temporary artificial anus into the cecum to allow local treatment and to rest the inflamed colon

60 **Treatment of Tuberculosis of the Bladder According to Rovsing**—Rosenstein reports two cases of tuberculosis of the bladder in which he applied Rovsing's technic of local application of a 6 per cent solution of carbolic acid The results, he thinks, confirm the opinion that this method represents important progress, especially in the cases in which the bladder affection persists after removal of the kidney He warns that it is a heroic measure and may lead to slight collapse, but with cautious dosage and close supervision the patients can be relatively or completely cured

66 **Effect on Leukemia of Intercurrent Infection**—Samson discusses the effect of an intercurrent acute infection on leukemia and reports a case in which the signs and symptoms of lymphoid leukemia in a child vanished at the onset of noma They returned later, however, after the recovery from the acute infection, and the child died

Correspondenz-Blatt für schweizer Aerzte, Basle.

January 15 XXXVIII No 2 pp 33 72

70 Treatment of Suppurative Otitis Media by the General Practitioner (Mittelohreiterung) F Siebenmann
71 Differentiation and Questionable Value of Serum Treatment of Epidemic Cerebrospinal Meningitis C Müller Commenced in No 1
72 Ocular Reaction to Tuberculin (Ophthalmo-Reaction) O Stoll

February 15 No 4 pp 105 136

73 *Idiopathic Dilatation of Œsophagus (Speiseröhrenerweiterung) A Huber
74 *New Edition of Swiss Pharmacopeia. (Pharmakopœa Helvetica.) M Cloetta

73 *Idiopathic Dilatation of Esophagus.*—Huber gives skiagraphs of a patient with extreme dilatation of the esophagus, and reports also a second case Roentgen examination showed the lack of conditions indicating operative treatment Much benefit was derived from feeding through the stomach tube—one patient gained several pounds in less than three weeks There was nothing to indicate spasm of the cardia, the trouble seemed to be merely primary paralysis of the walls of the esophagus

74 **New Edition of Swiss Pharmacopeia**—Cloetta remarks in concluding his review of the new (fourth) edition of the Pharmacopeia Helvetica, that it is to be hoped that physicians will be able to find what they want for each patient among the 853 medicines listed in this book and that they will henceforth refrain from prescribing "patent medicines" The pharmacopeia commission did not wish to promote the sale of patent protected medicines and consequently the fancy, trade name of a drug is given only when the patent has expired Other wise only the chemical name of the drug is given in the text but in the index the protected name is given with reference to its chemical name One section of the work is devoted to sterilization, it is not intended to compete with aseptic methods, but merely to enlighten the druggist in case the physician's directions are not explicit enough The only serums listed are those for diphtheria and tetanus and Koch's tuberculin The others are excluded for the same reason that ichthyol and strophanthin are excluded, namely, because chemists and pharmacists are not satisfied that these drugs have sufficiently reliable identity reactions The maximal dose of cocain has been reduced from 0 05 to 0 03 gm (0 5 grains), of digitalis, from 2 to 1 gm (30 to 15 grains) a day, and of scopolamin, raised from 0 0002 to 0 0005 gm (1/120 grain) The initials P I stand for the unified methods of preparing drugs agreed to in the international pharmacopeia About 151 new articles are included in this last edition and 95 were dropped It makes great demands on the apothecaries, and Cloetta thinks that this is the best means to enhance the dignity of this profession The demands for testing the purity, etc., of the various drugs are so high that only scientifically trained men can comply with them Physicians should bear this in mind when it is a question of self dispensing, and apothecaries, in their turn, should remember their principles *when clients ask them for medical advice*

Deutsche medizinische Wochenschrift, Berlin.

February 13 XXXIV No 7 pp 265 312

75 *What Has Been Learned Lately in Regard to the Stomach (Neuere Ergebnisse der Therapie etc. des Magens) J Strasburger
76 *Conjunctival and Cutaneous Application of Tuberculin E. Stadelmann Commenced in No 5 Id O Gaupp
77 Biologic Research with Solution of Iron Albuminate (Liquor ferri albuminati) W Schultz
78 Suture of the Heart After Bullet Wound (Herznaht.) G Sultan
79 Research on O Schmidt's Alleged Protozoon like Parasite of Malignant Tumors and 'Cancroidin (Schmidt.) B Baisch.
80 Blindness in Eyes that Squint. (Amblyopia strabotischer Augen) F Becker
81 Powder Insufflator for the Trachea (Kehlkopfpulverbläser) J Elselt.
82 New Remedies Specialties and Proprietaries F Zernik
83 Progress in Appliances for Care of the Sick. (Krankenpflegetechnik) P L. Jacobsohn
84 Text of Proposed Bill to Regulate Practice of Medicine by Irregulars and the Sale of Proprietaries
85 Importance of Chair of Orthopedics Mamlock.

75 **Physiology and Treatment of the Stomach.**—Strasburger reviews what has been learned in late years in regard to the physiology, pathology and treatment of the stomach Grützner's research has confirmed the fact that the food as it is taken into the stomach lies in layers and does not become mixed The food first taken into the stomach lies around the periphery and that taken later lies inside of this and thus does not come in contact with the mucous membrane, even when the food is more or less fluid These facts show that the Sahli and Mathieu tests of stomach functioning are liable to give misleading findings They also throw new light on the therapeutic administration of hydrochloric acid When the hydrochloric acid is given after a meal it lies in the middle of the top layer of the stomach content and thus does not come in contact with the pepsin secreted by the mucosa The digestion is not improved by its administration unless pepsin is administered with it Experience has shown, also that larger amounts can be given to advantage Leo prescribes for adults from one half to two teaspoonfuls of a mixture of 5 or 10 parts each of hydrochloric acid and dried pepsin with water to 50 parts, taken in sweetened tea during or after the meal If the aim is to prepare the stomach mucosa for secretion of gastric juice on ingestion of food, or to stimulate the production of bile and pancreatic juice, the hydrochloric acid should be given alone, just before the meal, without pepsin, and in smaller doses

76 **Ocular and Cutaneous Reaction to Tuberculin**—Stadelmann's extensive clinical research with these reactions has failed to explain the occasional tardy reaction to the cutaneous inoculation of tuberculin, but it shows that this form of reaction has no diagnostic importance so far as can be learned He found that the cutaneous or ocular reaction is liable to flare up again if tuberculin be injected for the ordinary exploratory test, or in treatment, even weeks after the primary ocular and cutaneous tests In all probability, he says the positive response to the ocular test indicates the existence of an active tuberculous process in the organism, and



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BOVRIL

102 Nocturnal Enuresis in Children.—Fürstenheim dwells on the necessity for "rhythmifying" the urinary functions. Children should be trained to urinate at regular two or three hour intervals, and should be waked for the purpose at night, if necessary, to stop enuresis. He ascribes to abnormally profound sleep the lack of control over the urinary functioning, and urges that children should take a nap during the day to render the sleep at night less profound. Change of scene is the most effectual of all measures against enuresis, supplemented by psychic treatment, especially praise and insistence when the child has once succeeded in passing a night without wetting himself. Rewards and punishments soon lose their effect, and have a bad influence. Actual hypnosis, he thinks, has an effect beyond what is generally recognized. After its application the children sleep restlessly, grow listless and lose color and appetite. Waking suggestion is generally sufficient. Fall or spring weather is liable to bring back the enuresis, but the wearing of an abdominal band at night generally arrests the tendency. Urinals and similar appliances do not answer the purpose so well as absorbent cotton folded in a diaper or something of the kind.

103 Treatment of Puerperal Pyemia.—Liepmann advocates surgical intervention, removing the cause at one stroke, merely waiting for subsidence of the acute manifestations. The discovery, through the vagina, of something resembling a varicocele, in a vein, is the signal for operating. The indications are best met by ligating the diseased ovarian and hypogastric veins, not forgetting the possibility of the existence of a second internal or median iliac vein, such as Kownatzki has recently discovered. Proper opening up of the field and ligation of the venous trunks actually involved in the process is the aim in operating. The diseased vein should not be resected, as this is liable to distribute the germs. To date, 7 patients have been cured out of 20 operated on, and faulty technic was evidently responsible for several of the failures.

104 Tuberculosis of the Eye.—Lichtenstein states that this affection is observed in about 0.5 per cent. of all the applicants at the Berlin eye clinic, and he describes the various forms observed. A primary process generally remains restricted to the eye, and may heal in time without much impairment of vision—the only exception is granulating tuberculosis. This usually entails the loss of the eye, if not general infection also.

107 Cutaneous Reaction to Tuberculin.—This article states that the mere rubbing on the skin of a dead culture of tubercle bacilli or a little tuberculin—after the skin has been shaved—will induce the typical specific reaction after twenty four hours, without the necessity for scarifications. The reaction results from the action of the tuberculin on the soluble products of the tubercle bacilli in the skin. The reaction is not dependent on the presence of living bacilli in the tissues.

Wiener klinische Wochenschrift

February 13 XXI No 7 pp 213 246

109 *Pathogenesis of Cholelithiasis. A. Exner and H. Hevrovsky.
110 *New Formed Element in Milk. (Neuer Formbestandteil in der Milch. Laktokonien.) A. Kreidl and A. Neumann.
111 *Simplified Serum Diagnosis of Syphilis. E. Klausner.
112 Adrenalin Anemia. (Adrenalinämie.) M. Goldzieher and B. Molnar.
113 *Two Cases of Paratyphoid Meningitis in Infants. L. Arzt and J. Boese.
114 Two Cases of Aseptic Nephrolithiasis. G. Nicolich.

109 Pathogenesis of Gallstones.—Exner and Hevrovsky relate research which demonstrates that the bile acid salts are precipitated under the influence of bacteria added to the bile. This occurs with various bacteria, but is nearly ten times more marked with typhoid bacilli than with others, as is shown by the tabulated findings of tests with seven varieties. The typhoid bacillus must play a prominent part in the pathogenesis of cholelithiasis, when other germs are found in the gallstones they are probably a secondary invasion. See editorial in THE JOURNAL, March 14.

110 New Formed Elements in Milk.—Kreidl and Neumann state that study of the milk of various species with the ultramicroscope has shown the presence of innumerable small particles in lively molecular motion, in the plasma of every specimen of milk, except human milk, in which none could be discovered. They call these little bodies "lactoconias," like the hemoconias in the blood. They are now studying the nature of this "milk dust."

111 Simplified Serum Differentiation of Syphilis.—Klausner announces that he has obtained constantly positive results in 31 cases of syphilis and constantly negative results in 23 cases of *non* syphilitic cutaneous affections with the simple diagnostic test he proposes. In a glass, 0.5 cm. in diameter and 5 cm. tall, he mixes 0.2 c.c. of the patient's serum with 0.7 c.c. of distilled water. After thorough mixing, the glass is set aside at room temperature. In the course of about fifteen hours a precipitate forms, in the syphilitic cases from 2 to 4 mm. in depth, or flakes float in the fluid, gradually sinking to the bottom. The control glasses show no precipitation during this period, if a little precipitation occurs by the end of twenty four hours it is insignificant compared with the marked amount in the syphilitic serum. As the precipitate dissolves in physiologic salt solution and in acetic acid, he believes it to be formed of globulin, and that it may possibly prove to be characteristic of all processes accompanied by formation of antibodies. The reaction was positive also in 2 cases of severe croupous pneumonia and in 1 of typhoid, but by diluting the serum to 1 to 5 or 1 to 10, there was no further reaction in these cases, while the reaction occurred unmodified even with this dilution in the cases of syphilis.

113 Paratyphoid Meningitis in Infants.—Arzt and Boese relate experiences and research which establish, they think, that paratyphoid infection is by no means uncommon among infants. It probably originates in the intestinal tract and may lead to bacteriemia. A fibrous suppurative meningitis may follow, and this form of meningitis may prove to be more frequent than hitherto supposed. The article concludes with a bibliography of 144 articles bearing on paratyphoid infection and meningitis.

Zentralblatt für Chirurgie, Leipzig

February 15 XXXV No 7 pp 185 216

115 *McBurney's Point. Lanz.
116 Urine Findings After Spinal Anesthesia. (Urinbefunde nach Lumbalanästhesie mit Stovain.—Bilion.) B. Csermak.

115 Location of Appendix.—Lanz noted a fold in the skin over the iliac fossa in a bronze sleeping faun at the Naples museum and also in another classic statue, and has found this an incision corresponding to this constant fold in the skin allows the best access to the appendix while giving the best cosmetic results. In by far the larger majority of cases the mouth of the appendix is at a point one third of the distance on a straight line from spine to spine. He gives an illustration of his "girdle incision" which crosses this point. He also describes experiences which warn against aggravation of the inflammatory process by injury from palpation, and against the danger of creating inflammation, where such did not previously exist, by rough and repeated palpation. "palpatory hematoma" resulted from such maneuvers in one case with a healthy appendix.

Zentralblatt für Gynäkologie, Leipzig

February 15 XXXII No 7, pp 201 232

117 *Healing After Pubiotomy Wound. (Zur Frage der Heilung der Hebosteotomiewunden.) Oberndorfer.
118 Necrosis of Myomas in Pregnancy. F. Schenk.
119 Chorioepithelioma. (Ueber das Chorionepitheliom im Anschluss an einen interessanten Fall.) T. v. Wenczel.
120 Perforation of Uterus. E. Herz.
121 Importance of Retention of Fetal Membranes and Best Method for Removing Them. (Bedeutung der Eihautretention.) Louros.

117 Healing of Pubiotomy Wounds.—Oberndorfer's experience and experimental research show that there is no actual bone formation after pubiotomy, the space merely filling up with connective tissue. He thinks that the smoothness of the sawed surfaces is probably responsible for the absence of ossification. He found in one case that the callus protruded on each side, and cast a shadow with the Roentgen rays which apparently showed ossification; application of the rays from another point showed the persisting light interval between the stumps.

OUR HOSPITALS AND DISPENSARIES

To the Editor of THE INDIAN MEDICAL GAZETTE.

SIR—Vigorous efforts are being made to start a "net-work of medical schools in Bengal, and to establish numerous dispensaries with a view to manufacturing a large number of cheap brands of medical practitioners and to bring medical aid to the door of the needy rural population" It is certainly for the benefit of the poor that these various schemes are mooted but let us wait and see how these costly and ambitious proposals are carried out.

In the leading columns of the *Indian Medical Gazette* a series of able and interesting articles have already appeared and the observations chronicled therein should be a warning to those who favour cheap popularity and patronise economy at the sacrifice of efficiency

These fascinating schemes may excite the admiration of superficial observers and there may be many supporters because many amongst those who are in power and who are arbiters of our fate, are to our misfortune not perfectly acquainted with the actual needs of the people and their advocacy lacks sincerity, experience and knowledge

It is absolutely necessary that there should be more dispensaries and hospitals and the country should possess a proportional increase of "qualified" licensed medical practitioners But this does not mean that the villages should be infested with ill trained "quacks" whose standard of education, and greed for money must disqualify them for practising medicine surgery and midwifery The sense of responsibility and capacity and desire for discrimination will be found wanting amongst those who make money their aim and ambition and whose customers are generally poor ignorant and unlettered It is idle to think that these lowly trained men will not handle all sorts of cases in the mofussil When there is no guarantee, and no check abuse is inevitable

There is a universal cry for raising the standard of medical education and increasing the period of study in medical schools from four to five years which is considered by the members of the All-India S A S Association as the "irreducible minimum' and it will be a sad day for Bengal as for all-India if any attempt is made to lower the standard and cut short the course of study Medical education in India is passing through the developmental stage and nothing should be done to hamper its progress

Cheapness is indeed essential for a poor country like India and perhaps there is no other place on the face of the earth where quality is so sacrificed for the sake of quantity Is it desirable that the country should be equipped with so-called "cheap brands" of medicos and ricketty poor and financially embarrassed institutions ?

In a real sense our existing hospitals and dispensaries are not as popular as they should be "Want of Funds" is the characteristic feature of these institutions Philanthropy co-operation and healthy support are practically unknown It is therefore necessary to appoint a committee to make a careful enquiry into the actual conditions of the existing dispensaries and hospitals the method of teaching in our schools and the interest the members of the teaching staff take in their pupils I feel sure that such an impartial enquiry will present a most interesting picture of the present situation and undoubtedly show how matters stand

My long association with the department has fully convinced me that as it is desirable to cheapen the doctor it is more essential to cheapen the course of treatment, and it seems to me that the criterion lies in rupees annas and pies and unless measures are adopted to cheapen the drugs used and free existing institutions from financial encumbrance, the present difficulties will continue to exist

Yours truly
(SD) SATKARI GANGULI,
Bengal Medical Service

Hughli—Ranaghat
6th July 1922

Service Notes.

APPOINTMENTS

LIEUTENANT-COLONEL R. P Wilson FRCS IMS Professor of Surgery Medical College Calcutta is appointed to officiate as Surgeon General with the Government of Bengal with effect from the date on which he assumes charge of his duties

THE services of Lieutenant-Colonels J C Robertson, CMG CIE CBE MB IMS and L. L Perry, DSO IMS are replaced permanently at the disposal of His Excellency the Commander-in-Chief in India

The services of the following officers of the Indian Medical Service are placed permanently at the disposal of the Government of Bombay, with effect from the dates noted against their names —

Major J Smalley MB 19th April, 1917
Major D D Kamat. 12th October, 1918

MAJOR M L Puri IMS assumed charge of the office of Civil Surgeon Rawalpindi on transfer from Attock on the forenoon of the 15th May, 1922 relieving Lieutenant-Colonel P St C More, IMS proceeded on leave

THE services of Major C H Fielding MB IMS are placed permanently at the disposal of the Government of Burma with effect from the 11th January 1916 for employment in the Jail Department

CAPTAIN H G ALEXANDER FRCS IMS Officiating Professor of Anatomy on being relieved on the 16th June 1922 is appointed to officiate as Professor of Ophthalmology and Diseases of the Ear, Nose and Throat King Edward Medical College Lahore from the 16th June to the 13th August 1922 inclusive

LIEUTENANT-COLONEL A A Gibbs IMS Officiating Assistant Director-General Indian Medical Service (Stores) is confirmed in that appointment with effect from the 11th May 1922 *vice* Major H Ross OBE IMS

THE Governor in Council is pleased to nominate Major A F Hamilton MB FRCS IMS as a member of the Bombay Medical Council *vice* Lieutenant-Colonel T S Novis, FRCS IMS resigned

SUBJECT to His Majesty's approval the undermentioned officers have been appointed permanently to the Indian Medical Service as Lieutenants by the Right Hon'ble the Secretary of State Their commissions will bear the dates shown against their names —

Edwin Charles Allan Smith (Captain Royal Army Medical Corps, Temporary Commission) Dated 1st July 1921

Previous mobilised service as a temporary officer in the Royal Army Medical Corps from 8th December 1914 to 10th December 1916 = 734 days, from 16th February, 1917 to 3rd June, 1919 = 838 days and from 20th November, 1919 to 30th June, 1921 = 589 days—total 2,161 days count for pay pension and promotion

Norman Hubert Smith MB (late Captain Royal Army Medical Corps Temporary Commission) Dated 15th October, 1921

Previous mobilised service as a temporary officer in the Royal Army Medical Corps, from 6th May, 1916 to 7th December, 1919, total 1,311 days count for pay, pension and promotion

THE services of Major G E Malcomson, MD, IMS, are placed permanently at the disposal of the Government of Madras, with effect from the 7th September, 1920

THE services of the following are placed permanently at the disposal of the Government of Burma, with effect from the 29th April, 1919 —

Major H S Matson, MB, IMS
Major L A H Lack, MB IMS
Major H B Scott, OBE, IMS

RETIREMENTS

SUBJECT to His Majesty's approval, Lieutenant-Colonel Charles Edward Sander, MD, has been permitted by the Right Hon'ble the Secretary of State for India to retire from the service, with effect from the 1st April, 1922

Lieutenant-Colonel Jeremiah Penny (Madras), is permitted, subject to His Majesty's approval, to retire from the service, with effect from the 28th July, 1921

LEAVE

MAJOR-GENERAL B H Deare, CIE, IMS, Surgeon-General with the Government of Bengal, is granted leave on urgent private affairs for four months with effect from 5th July, 1922, or the subsequent date on which he avails himself of it

MAJOR H S HUTCHISON, IMS, Civil Surgeon, Nasik, is granted privilege leave for such period as was due to him on 16th November, 1921, in combination with furlough on full average salary for four months and furlough on half average salary for such period as would bring the total period of absence to one year

LIEUTENANT-COLONEL J L LUNHAM, IMS has been granted, with effect from the 12th March, 1922, leave on average pay for six months and twenty days and on half average pay for ten days

RESIGNATION AND RETENTION OF RANK

THE undermentioned, whose resignation, with effect from the dates specified, was notified in the Lon Gazs, dated 21st October, 1921 and 4th November, 1921, respectively, are granted the rank of Captain on retirement —

G B Harland, MD 17th September, 1921
T H Almond 1st September, 1921
P P Steel, MC, and is permitted to retain the rank of Captain 23rd October, 1919

NOTICE.

CLASSIFIED List of Second Hand Instruments C Baker and Co, 244, High Holborn, London June 1922

Messrs C Baker's above list is one which all who contemplate purchasing second hand equipment would do well to study In these post-war days of dear and not too efficient microscopes and mechanical stages a catalogue such as this is worth studying An achromatic 1|20th inch oil immersion Zeiss lens for £6 and an apochromat 2 mm Zeiss oil immersion lens for £16 are simply random selections of good bargains The would-be purchaser of microscopes is at present in rather a difficult position Many English models are certainly very good, American microscopes, although of very fine standard and finish, are expensive at current rates of exchange German microscopes are not what they were before the war The writer in January 1917 wrote to a leading authority at home asking for advice with regard to purchasing microscopes for a new institution The reply was, "I regret to say that the best advice I can give you is to buy good second-hand German microscopes" Messrs Baker's catalogue of second-hand scientific instruments, however, contains the best of bargains in instruments by all makers, and includes over 2,500 pieces of apparatus The June issue includes several new features In the astronomical section several fine equatorial telescopes are for sale at reasonable prices, in the photographic department the Metron Binocular focusser and the non-slip telescopic tripod are items of interest For Schools and Colleges the section dealing with projection and optical bench apparatus is of interest

Notice.

SCIENTIFIC Articles and Notes of interest to the profession in India are solicited Contributors of Original Articles will receive 25 Reprints gratis, if required

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Original Articles.

ELECTROLYTIC CHLOROGEN

By N W MACWORTH, F.R.C.S (Ed), M.B, Ch.B,
LIEUT-COLONEL I.M.S,
Civil Surgeon, Muzaffarpur, Bihar and Orissa

In the January, 1922, Vol IX, No 2 number of the *Indian Journal of Medical Research*, there appeared a report on Electrolytic Chlorogen by Captain W Hodgkinson, R.E, and Mr C M Hutchinson, C.I.E, Imperial Agricultural Bacteriologist of the Agricultural Research Institute, Pusa

The principal objects of this enquiry, which were carried out under the auspices of the Army Department (Simla), were to determine the possibility of preparing in India from indigenous materials and by simple apparatus, hypochlorite solutions of sufficient stability to allow of their use for sterilizing water under Field or Peace conditions, the apparatus to be so simple that it could be operated by any Medical Officer or subordinate without any special knowledge of electrical practice or chemical theory, and in any situation where electrical current might be available.

The hypochlorites, as every one knows, are most unstable compounds and this has detracted greatly from their practical value These workers recognised the impossibility of producing a completely stable preparation They are to be congratulated, however, on having discovered a hypochlorite solution of comparative stability, the strength and utility being maintained for all practical purposes for six weeks in the Plains, (30° C) and for one year or more in Hill stations, (20° C—22° C)

During the early days of the great war surgeons became much agitated at the increasing virulence displayed by the pyogenic organisms affecting wounds, moreover the antiseptics then in vogue had little or no effect as such

The advent of Lorrain Smith's hypochlorous acid entirely changed the aspect of affairs and was justly welcomed

A very little later Dakin's sodium hypochlorite solution appeared

Then Carrel demonstrated the correct technique for the application of antiseptics which he termed "Intermittent Irrigation with antiseptic solutions" or continuous irrigation with negative pressure

Again the thanks of the profession are due to Sir Henry Gray for the surprisingly efficient treatment of foul wounds by "Excision and Primary Suture"

All these hypochlorite preparations, however have one great fault, *viz*, instability Their rapid deterioration necessitated the preparation of a fresh supply thrice weekly, and rendered it impossible to keep the advanced posts in the firing line supplied, their use being more or less limited to hospitals and posts more favourably situated

Again, the storage and preservation of bleaching powder (which along with boracic acid is used in the preparation of Eusol), is almost impossible in the tropics This was very marked in Mesopotamia, where few of the samples of "Bleach" contained anything like a satisfactory chlorine content some of them being practically inert

A preparation with which we are acquainted in India, *viz* Chlorogen (dibasic hypochlorite of soda) is an improvement on Eusol The samples however vary tremendously Some of the bottles on analysis have a low percentage of chlorine (*See* Mr Hutchinson's article in the *Research Journal*) I also found this to be so, from experiments made on various samples at the Brigade Laboratory, Bareilly The deterioration of Chlorogen is rapid, in spite of cold storage in rubber-stoppered black bottles, luted with wax The chlorine dissociates quickly when the bottles are opened Nevertheless, Chlorogen is a wonderful antiseptic and the low percentage of chlorine can be made good by a lesser dilution with saline

As stated above, this drawback has been to a great extent overcome by Mr Hutchinson (and his designated co-operators) The product E C (Electrolytic Chlorogen) is not only sufficiently stable to make it a practical proposition, but the samples are uniform, all very important factors especially for surgical work in the field

The most economical and efficient strength for Electrolytic Chlorogen has been found to be 2·5 per cent of available chlorine This keeps practically stable for six weeks in the hot weather, the concentration then gradually falls to 2 per cent, but this percentage is maintained for six months The period of stability for disinfection of wells and for surgical purposes is ample, there being no need to keep large stocks, since it can be very rapidly produced (provided the plant exists) just when it is wanted

For surgical work, 2 per cent, 1·5 per cent, or even less is quite sufficient Mr Hutchinson kindly provided as much E C as was required for the surgical work in Muzaffarpur and for certain other purposes, and I have had ample opportunity of observing its action

I have been using this E C ever since my arrival at Muzaffarpur and I may here state that E C has now replaced every antiseptic in this Hospital practice, the results obtained being excellent I am tempted to say that since using E C not a drop of pus has made its appearance in the surgical wards If this is not quite true, it is very nearly so, and my staff will bear testimony to this

This is a great deal to claim for a mofussil hospital, where the conditions under which surgical work is performed are far from ideal

The shortcomings on the part of theatre assistants and attendants are neutralised by E C One has now no anxiety about cases on leaving the table, no dread of septic temperatures, and one experiences a great sense of freedom during operation It is now possible to perform successfully operations demanding a strictly antiseptic field, under adverse conditions

I have now not the slightest hesitation in consenting to perform abdominal sections in the bazaar, where the sanitation is of the most primitive description, very often decidedly bad

The death roll from puerperal septicæmia would be greatly minimised if *dhais* could be induced to dip their hands in an E C solution from time to time whilst attending maternity cases The rapidity and simplicity of disinfection of hands is another claim for this antiseptic In India the theatre attendants and assistants in the out-door department, dressers also are apt to get lax in the sterilisation of their hands Very few hospital compounders and dressers ever acquire an aseptic conscience If one sees them dip their hands in a strong solution of E C the safety of the patient is assured and one need have no anxiety

To a great extent the use of rubber gloves has been given up in the hospital, the wearing of gloves now being regarded as a safety for the surgeon rather than a protection for the patient

The following account of the treatment of a compound septic fracture of the femur is a good illustration of what may be expected by using E C —

A boy, aged 12 years, was brought to the Muzaffarpur hospital with a compound fracture of the femur, the result of a fall from a toddy tree sustained 10 days prior to admission This necessitated immediate operation, and under chloroform the wound was enlarged and cleaned out Pure E C 2 5 per cent was used to scrub the wound The pyogenic tissues of the walls of the wound were completely excised, more or less according to Sir H Gray's method of dealing with gunshot wounds, the bone cut square, leaving a gap of 2½ inches The wound granulated up (after 2 days not a drop of pus appeared, this being the usual experience with E C) and a fortnight later, the child having recovered from the shock, toxæmia, etc., a plastic operation was performed

A bone graft of requisite length was taken from a young goat's femur, the graft being preserved in 1-100 E C at 37° C till required, some 20 minutes The ends of the child's femur were vivified and cut transversely During the operation the wound was well flushed out with 1-100 E C (This is the invariable practice during operations) The graft was wrapped round the middle with gauze and firmly held with a Lion forceps Using a large bastard file the ends were pointed This piece of bone was now inserted between fragments of the boy's femur, the pointed ends being introduced into the medullary cavities and a six inch mild steel Lane's plate applied so as to bridge and thereby reinforced the jointing Recovery was uneventful

This case well shows the great value of E C

The following points in favour of E. C should be especially noted ,—

(1) Its high bactericidal power (Chemical)

Comparison of Germicidal strength of Antiseptics to B coli

(Extract from Martindale, Vol II, page 348)

Picric Acid, 1-400
Alcohol, 70 per cent
Silver Nitrate, 1-2,000
Brilliant Green, 1-100
Bromum, 1-20,000
Chlorinum, 1-75,000
Chloroform, 1-200
Formaldehyde, 1-50
Hydrarg Iodide, 1-100,000
Hydrarg Perchlor, 1-100,000
Hydrarg Cyanide, 1-2,500
Iodum, 1-50,000
Malachite Green, 1-1,000
Potash Permanganate, 1-2,000
Thymol, 1-1,500

This table is most instructive since it gives at a glance the bactericidal values of the antiseptics commonly used in surgery

Chlorine tops the list, closely followed by Iodine

The mercurial salts are ruled out, since they kill not only germs but tissue protoplasm as well and lack the selective action which chlorine possesses, *i e*, the property of killing germs but sparing vital tissue and cell vitality (*See above*)

(2) Its selective action whereby the protoplasm of bacteria is killed yet that of the living tissues is unharmed The bone graft in the above operation was in nowise devitalised after 20 minutes immersion When E C is used in the usual strength of 2 5 per cent tissues become quite black, yet there is no necrosis

(3) A free flow of lymph follows the use of E C Hence we have automatic lavage of the wound E C has a marked lymphagogic action

(4) Bactericidal power (Pathological) possessed by the increased supply of lymph containing antibodies

By using E C we have both a bactericide and a physiological antiseptic

(5) Another property possessed by E C and hypochlorites is the *powerful deodorising action* much appreciated by the operator, patient and everyone else By sprinkling a few drops of E C about the site of operation the very foul stench of B coli, B foetidus, etc, is discharged like magic

(6) *Separation of necrotic tissue* is hastened by the use of E C (*Vide infra*)

Case of an Indian lady, 55 years, Carbuncle on back 4 inch diameter, grey whitish slough, toxic absorption

Operation was declined and the case was treated with plain gauze saturated with 1-100 E C

After 4 or 5 days the pyogenic layer showed signs of separating leaving healthy granulations, which were rapidly covered by epithelium

The patient improved immediately treatment was commenced, the exhaustion from pain and septic absorption disappeared and her general condition was greatly improved

This separation of necrosed tissue is a noted feature of hypochlorite antisepsis

Correct strength of E C solution for various purposes

E C as has already been said is sent out containing 2 5 per cent chlorine or very nearly so

2.5 per cent E C may be used pure on a raw surface for very septic wounds The tissues are made quite black with such a strength

Strong solutions cause pain and are only to be used when the patient is anæsthetised E C should be used in a strength short of causing discomfort to the patient 1-100 is quite sufficient for most purposes

For preparation of the patient before operation use soap and alcohol first, then 1-20 E C

For the hands 1-100

For applying gauze dressings over dirty wounds 1-100 no harmful effects have been caused

Septic uteri

Otitis Media

Septic pleurisy

Septic throats

Gargle about 3 drops to a glass of water or paint with a stronger solution

Pyorrhœa alveolaris much alleviated by treating gums with pure E C pushed in between teeth and gum margin by a cut match end

Cystitis 1-1 000

As a dentifrice a few drops to a glass of water

Instruments—Well plated instruments do not tarnish The chlorine however very quickly attacks metal exposed by any break of the plated surface and so E C must not be used for sterilizing instruments this is the only drawback to its use in surgery

Gloves—Rubber gloves are well sterilized by immersion for a few minutes in a 1-100 solution having been washed previously with soap and water

E C does not rot rubber to any great extent

Ligatures—E C is a most efficient antiseptic for treating silk. Soaking silk material in a strong solution for a few hours, one has not the slightest anxiety or dread of sepsis from ligatures or stitch suppuration

E C is obviously unsuitable for the sterilization of gut (as the gut swells in an aqueous solution), however as silk ligatures are used by many in preference to gut this is nothing in its disfavour

Table showing amount of E C of various strength required to give one part of chlorine per million of water

For strength of E C less than 2 per cent., calculate from this table as follows —

Say 1 8 per cent. of E C

1 oz per cub yard of 2 7 per cent. is required.

1½ oz per cub yard of 1 8 per cent is required

Strength of E C	C c per gallon	Minims per gallon	C c. per cubic foot.	Minims per cubic foot	Oz per cubic yard
2 %	·227	3 84	1 42	24	1 35
2 1/2%	·215	3 65	1 35	23	1·28
2·2%	·206	3 49	1·29	21 8	1·22
2 3%	197	3 33	1·23	20·8	1 17
2 4%	189	3·2	1 18	20	1 13
2 5%	181	3 06	1 13	19·2	1·08
2 6%	174	2 95	1·09	18 5	1·04
2·7%	168	2 84	1 05	17 8	1·00
2 8%	162	2 73	1·01	17 2	0 965
2·9%	156	2 64	98	16 6	0 93
3·0%	151	2 55	95	16·0	0 9

Example 1 —

200 gallon tank, 2 4 E C required

$200 \times 0.189 = 36.8$ cc or $200 \times 3.2 = 640$ minims

= 1 oz 2 dr 40 mm

Example 2 —

Well 6 ft. diam 10 ft. deep, 2 6 per cent E C

$$= \frac{6 \times 6 \times 11 \times 10}{4}$$

= 284 cu ft × 18 5 minims = 5,254 mn

10 oz. 7 dr 34 mn

Example 3 —

Tank 40 yds × 120 yds × 3 yds 2 3 per cent E. C

= 14,400 cu yds × 1 17 = 16,348 ozs

= 105 gals 1 qt 1 pint 5 oz.

Economy effected by using this antiseptic

Mr Hutchinson has carefully worked out the cost of production of E C He finds that it can be manufactured at the various stations at which his apparatus has been installed at a cost not exceeding one anna per quart (The price of chlorogen varies from Rs 2 to Rs 2-8 per quart)

Iodine is a heavy item in the hospital dressing bill An expenditure of Rs 250 is incurred annually in my hospital on this antiseptic alone E C takes the place of Iodine for every purpose (Very possibly, E C will surpass Iodine in the intravenous treatment of certain diseases So far I have not attempted to inject E C intravenously) Carbolic, the mercurial salts, permanganate, flavine, picric acid, etc, are not now used in my hospital

Again, the frequent use of gloves, as previously stated, is not necessary for the safety of the operator

Sterilization of coats, towels, dressings, etc, can be efficiently carried out by soaking in E C solution

Another saving As all cases heal by first intention and dirty wounds clean up in two days or so, the expenditure incurred for cotton wool, gauze and bandage cloth incidentally decreases I may mention that the dressers do not altogether appreciate the introduction of E C, and are decidedly non-co-operators as far as this is concerned, their income being affected by the lessened number of after-dressings now available for sale The number of days patients now remain in hospital is much less than was the case when the dressers and compounders rejoiced to see the foul pus flow, and the patient likewise ,—"No doubt, the poison is being extracted from my system" Dr Laha, the Assistant Surgeon of the Sadar Hospital, has estimated that a saving of Rs 1,500 per annum is effected by using E C

A NOTE ON THE USE OF E C (ELECTROLYTIC CHLOROGEN)

By S B LAHA,
Assistant Surgeon, Muzaffarpur

ELECTROLYTIC CHLOROGEN has been exclusively used as an antiseptic, at the Sadar Hospital, Muzaffarpur, for about a year and a half with excellent results Its effects in operations on aseptic cases, *e g*, hernia, hydrocele, scrotal tumour, etc, have been simply marvellous Out of the 250 major operations performed last year not one case went septic In operations on septic cases the results have been exceptionally good In the treatment of sloughing sores and spreading ulcers there is absolutely no antiseptic to compete with it

Electrolytic Chlorogen is not only an antiseptic and disinfectant, it is also a deodorant It rapidly

destroys any disagreeable smell in septic sores and ulcers It is slightly hæmostatic Unlike carbolic acid and perchloride lotions, it is not absorbed into the system, and does not give rise to poisoning It does not destroy tissues, even if it is used pure Its only drawbacks, which we have been able to find out, are that it tarnishes instruments and makes gloves or fingers rather slippery

Our technique for using it is as follows —

In operations on aseptic cases, the cases are prepared as usual and an antiseptic dressing put before the patients are brought to the table At one time we used to sterilize the skin with Iodine just before the operation, but this practice has been lately abandoned and we have been using E C for the purpose The usual strength of the lotion we use in these cases, is 20 per cent In some cases we use even 50 per cent with very good results

During operations our practice is to douche the wound twice or thrice with warm E C lotion and when the incision has been stitched up we invariably pass the glass nozzle of a douche through the stitches into the wound and wash every nook and corner and then squeeze out the fluid We then seal up the incision with mastic varnish and then apply an antiseptic dressing

In operations on septic cases we use stronger E C lotions In carbuncles for example after removing all sloughs and dead tissues, we mop the wound with pure E C, which we find is infinitely better than pure carbolic acid We then douche the wound with E C lotion 20 per cent Septic wounds and ulcers are in some cases scraped and treated with pure E C and then douched with 20 per cent E C lotion An antiseptic dressing is subsequently applied

Cases of foul ulcers are treated with E C baths (10 to 15 per cent) with invariably good results

The following cases have been selected from a good many treated in this Hospital, as they show *unmistakably* the value of electrolytic chlorogen —

Case 1—H M, aged 23, was admitted to hospital for the treatment of tuburcular glands in the neck on the left side, from which he had been suffering for several years On admission the general condition of the patient was found to be not very satisfactory He was rather weak and thin, though there was no adventitious sound audible in the lungs and no tubercular glands detected in the abdomen

After a few days rest in bed he was put under chloroform and a Z-shaped incision was made proceeding from the middle of the chin to the sterno-mastoid muscle and then along the anterior border of that muscle to the sterno-clavicular joint The incision was then carried on along the upper border of the clavicle to about its middle By means of this incision all the glands in the anterior and posterior triangles were carefully dissected out *Some of the glands were found to have broken down and suppurating* I therefore poured pure E C into the wound and then carefully douched with 20 per cent E C lotion and finally stitched up the wound without leaving any drain, my object being to see whether primary union would take place The incision was sealed up with mastic varnish and an antiseptic dressing applied

The following morning his temperature was normal He complained of a slight pain. For a few days after the operation he had a slight rise of temperature in the evening On the 9th day the stitches were removed and the incision was found to have healed by first intention A few days later he was discharged perfectly cured This indeed a remarkable case and certainly it is a great *triumph for* E C

Case 2—H M, aged 40, was admitted to hospital for the treatment of urinary fistulæ He had gonorrhœa several years ago This was followed by a stricture Subsequently urethral abcesses and fistulæ developed

On admission the general condition of the patient was found to be satisfactory He was fairly strong and muscular The scrotum was riddled with fistulæ and was hard and indurated One fistula was running up to the pubis There was constant discharge of pus and during micturition leakage of urine through the fistulæ.

Treatment—On admission the pubis and the scrotum were shaved and cleaned with E C lotion A few days after admission he was put under chloroform His stricture was fully dilated up to No 12 and a full sized catheter was passed into the bladder An incision was made in the middle line of the scrotum, the testicle and the cord were dissected out Then all the indurated tissues of the scrotum together with the fistulæ were excised leaving the healthy skin of the scrotum intact

As it was a septic case I poured pure E C into the wound and then washed it with 20 per cent E C lotion and finally stitched up the wound *without leaving a drain* An antiseptic dressing was of course applied and the catheter retained in the bladder As usual the urine was drained into a bottle underneath the bed by means of rubber tubing

The following morning his temperature was normal He complained of a slight pain in the wound There was *no smell in the dressings His dressings were* changed every day His temperature never went up The stitches were removed on the 10th day, the wound having healed by first intention The catheter too was removed on the same day A few days later the patient was discharged perfectly cured Like the previous case, it is obvious that the healing by first intention of a septic wound like this must have been due to E C

Case 3—H M, aged 23, was admitted to hospital with a suppurating hydrocele septic from tapping with a dirty trocar and cannula He had had his hydrocele tapped and injected by a local practitioner ten or twelve days before admission into hospital

On admission it was found that his general condition was anything but satisfactory He was weak and anæmic Soft systolic bruit was audible in the pulmonary region of the heart The patient had also elephantiasis of the leg

A few whiffs of chloroform were given the day after admission and an incision was made The tunica was found to be sloughing and contained a lot of foul smelling pus The testicle was found to be disorganised and was removed with the sloughing tunica The wound was carefully washed with *strong E C lotion* and stitched up No drain was inserted The following morning his temperature was normal and there was no pain in the scrotum For two or three days his evening temperature went up to 99 There was absolutely no pain in the scrotum The stitches were removed on the 10th day The incision healed by first intention

This is certainly a wonderful case, considering that the patient was so very weak flabby and anæmic

Thus it is evident from the cases cited above, that electrolytic chlorogen has succeeded in doing what no other antiseptic could have possibly done To start with I was sceptical about its value but am now thoroughly convinced that it will be the premier antiseptic of the surgical world when it is widely known In

operations on aseptic cases its use is sure to be followed by primary union if ordinary care is taken

A COMPARISON OF E C BLEACH AND CHLOROGEN

By C M HUTCHINSON, CIE,
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THE use of E C has naturally been compared with that of 'Bleach" with which medical officers are familiar both for sterilization of drinking water and for preparation of "Eusol" (Dakin's Solution) The disadvantages of Bleach for the former purpose in India are due to the rapid decomposition of bleaching powder both in transit from abroad and during storage in this country, the greater part of the available chlorine being lost before it comes into the hands of the user It is always necessary therefore for the medical officer to make a chemical analysis of the "Bleach" solution and increase the quantity used in proportion to the loss of chlorine that has occurred, the result is that excessive quantities of 'Bleach" have to be added to the drinking water in order to obtain the concentration of chlorine required for safety As the decomposition products of bleaching powder are mostly soluble in water and impart to it the objectionable and characteristic taste of "chlorinated" water, which is not due to chlorine, this excessive addition of "Bleach" generally results in the production of extremely unpalatable water, which troops in the field will do anything to avoid, usually with fatal results This does not happen with E C which, if used at any time within six weeks of preparation or much longer during the colder months of the year, will produce sterile water at dilutions of 1 in 40,000 and, as no decomposition products of an objectionable nature are concerned, no taste is imparted to the water

The use of E C compares favourably with that of proprietary solutions of bleaching powder such as chlorogen for the reason that although the latter possesses a measure of stability (which indeed appears to vary with different samples) like all hypochlorite solutions, including E C such stability is not absolute, and it becomes necessary when dealing with quantities of such material in stock not only to ascertain the chlorine concentration either on receipt or before use, but to keep accurate records of dates of purchase, conditions of storage, etc One great advantage of the use of E C will lie in the fact that once provided with the necessary apparatus the medical officer can turn out E C of invariable strength and stability at the rate which the demands of his district require, and at a cost which will be so low as to make it entirely unnecessary to hoard supplies, but always to use fresh stock and so ensure efficiency Thus although E C possesses an inherent stability period of six weeks during the hot weather, which extends its range of usefulness considerably, in actual district and hospital work such as has come within our experience at Pusa during the past year, the E C solution supplied to neighbouring hospitals and medical officers has been used up as fast as it was provided

E C as made at Pusa has been shown to possess remarkable selective properties as a surgical antiseptic, killing off pyogenic and other organisms, but not destroying living tissues I should like to record here my appreciation of Colonel Mackworth's work which has extended the scope of E C from that of a water sterilizer to the equally important rôle of a first class surgical antiseptic It may be pointed out that the high antiseptic value of E C in surgery is in all probability largely due to the increased lymphogogic action resulting from its high saline content, (20 per cent)

With reference to the relative costs of E C and Bleach solutions I have no figures to calculate the cost of the latter, but having regard to the rapid deterioration of bleaching powder referred to above, there can be no doubt that the use of the latter cannot compare favourably with that of E C, even including in this estimate the necessary depreciation and charges on the capital cost of the apparatus required For small installations and with current charged at the high rate of 6 annas per unit the cost of production of E C may be put at about 4 annas per gallon, this being sufficient to sterilize 40,000 gallons of water Compared with the price of chlorogen at Rs 2 per quart, it will be seen that E C has a considerable advantage As a surgical antiseptic, reference may be made to the statement by the Civil Surgeon of Muzaffarpur that E C has completely displaced all other antiseptics in his Sadar hospital, and that, owing to the fact that as a consequence of its use pus is unknown in this hospital, he is able to dispense with second dressings entirely Colonel Mackworth calculates that the use of E C has effected a saving of over Rs 1,500 per annum in this hospital alone There seems therefore no reason why the general introduction of E C throughout India should not result in a proportionate saving to Government The use of E C for sterilization of wells and water supplies in place of such antiseptics as are at present in use should represent savings of a much higher order

A further advantage connected with the use of E C is that it can be made entirely from materials locally available, namely bazaar salt and lime This represents a very great saving in cost of importation and distribution and of availability in times of war or of breakdown in railway or steamship transport

Further it may be pointed out that the very low cost of E C combined with its high efficiency will allow of its use on an extensive scale for many operations which the high cost of other antiseptics has so far rendered impracticable Amongst these may be included the sterilization of open tanks and reservoirs and of municipal water supplies and drains As an instance of the former it may be pointed out that in such a

case as frequently occurs, where thousands of people meeting on the occasion of a religious festival make use of a single tank as the only source of drinking water, the highly probable spread of a water-borne epidemic such as cholera may be averted by the sterilization of the tank Supposing a case where such a tank measured 40 yds by 120 yds by 9 ft average depth, this would require about 100 gallons of E C costing Rs 25 to sterilize, whereas the expenditure necessary to produce the same result with any other antiseptic would run into several hundreds of rupees

Similarly with village wells which it would be possible to sterilize during the cholera season at a reasonable cost, less than one anna per well, as indeed has been done in the districts surrounding Pusa at the special request of the villagers themselves It should be unnecessary to point out the advantages of sterilization of fixed water supplies and the relative economy of the use of E C for this purpose

THE BLOOD COUNT IN ANKYLOSTOMIASIS A WARNING

By J BORLAND McVAIL, MRCS, LRCP,
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Much has been written as to the diagnostic and prognostic value of eosinophilia in hookworm disease, and it is recognised that though a high eosinophil count is usual, sometimes the contrary is found It is known also that the eosinophilia is not always proportionate to the number of worms present If a case shows no eosinophils at all even after expulsion of the hookworms the sign is supposed to be a bad one, indicating exhaustion of the blood forming organism

Careful examination of the blood conditions in patients admitted to the Carmichael Hospital for Tropical Diseases has thrown fresh light on this subject I append herewith a table showing the percentage and total eosinophil count in a series of cases The eosinophil percentage was based on a count of two hundred All the counts were done by the same person, my assistant, Dr Arun Kumar Mukerji, and so the personal error is neutralised The examinations were made before treatment and the cases tabulated are as far as possible known to be 'clean' cases of the diseases mentioned—all cases showing signs of tubercle, leprosy, dermatitis, etc, being omitted The presence of other helminths than ankylostomes has been noted on the table when found The diagnosis of malaria and kala-azar was in every case confirmed by the actual discovery of the parasite concerned

The cases of pure ankylostomiasis were all ill enough to seek hospital treatment and some of them were severe

Simple Ankylostomiasis				Ankylostomiasis with Malaria				Ankylostomiasis with kala azar			
Other ova	Leuco cytes per c m m	Per cent Eosino phils	Eosino phils per c.m m	Other ova	Leuco cytes per c m m	Per cent. Eosino phils	Eosino phils per c m m	Other ova	Leuco cytes per c m m	Per cent. Eosino phils	Eosino phils per c.m m
	6,750	16	1,080	T D	7,500	12	900		6 975	1	69 75
T D	11,825	16	1,891	T D	5,000	4	200		5,300	—	—
Str	8,750	20	1,750	Oxy	9,375	16	1,500		5,940	8	474 4
A L	11,875	15	1,781 25		12 500	13	1,625		4,700	—	—
Trich	8,750	20	1,750	Str. A L	6,250	11	687 5		3 750	2	75
	10,000	13	1 300		7,500	10	750	T D	2,500	—	—
	6,875	12	825		3,750	8	300	Str	5,000	7	350
	8,437	34	2 868 58	T D	7,500	13	975	T D	2,500	—	—
Taen & T D,	20,625	51	10 518 75		4,375	13	568 75	Oxy.	3 750	—	—
									4 700	—	—
A L, Taen, T D	10,625	38	4,037 5						5 625	2	112 5
								Oxy	7 300	4	292
A L	8,440	18	1,519·2						3,750	3	112 5
A L, T,D,	4,000	8	320					Oxy	6 875	1	68 75
H N, T D	23,750	6	1 425					Oxy	3,750	—	—
	8,756	20	1,750						4,690	—	—
A L, T D	5,000	25	1,250						3,125	—	—
T D	15 000	15	2 250					T D	3,500	2	70
	8,750	11	962 5					Sts	5,000	1	50
									3,125	1	31 25
									5,000	1	50
									7,500	1	75
									2 750	—	—
									4,375	—	—
								T D	4,375	2	87 5
								Oxy	4,700	—	—
									4 375	—	—
									5 625	—	—
								A L	2 800	5	140
									2,500	—	—
									5,000	3	150
								A L	3,750	6	225
									2,500	4	100
Average	10,482 5	19·3	2,781		7,083 5	11	834		4,457	1 7	76 78

T D =Trichocephalus dispar Str =Intestinal strongyloids A L.=Ascaris lubricoides H N =Hymenolepis nana
Trich =Trichostrongylus instabilis Oxy =Oxyuris vermicularis

It will be seen that the presence of kala-azar is exceedingly powerful in reducing what I take to be the average normal eosinophilia of intestinal helminthiasis and that malaria also has some power

In kala-azar districts or even outside known kala-azar districts, if a case of ankylostomiasis shows few or no eosinophils per cub millimeter no time should be lost Spleen puncture or Napier's test should immediately be performed

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THE SITUATION OF THE MALARIAL PARASITE IN RELATION TO THE RED BLOOD CORPUSCLE

By J A SINTON, M.D,

MAJOR, I M S

(Research conducted under the Indian Research Fund Association)

THE idea that the malarial parasite during its cycle in the human host spends most of its existence in the interior of the red blood cell has usually been taken as an accepted fact, but Marchiafava and Bignami (1894) state that Laveran in his original description of the parasite 'thought the parasites were either free in the plasma or simply attached to the red corpuscles," and that "Marchiafava and Celli, in calling special attention to the younger forms (unpigmented amœbæ), maintained that they were found within the blood-corpuscle To sustain this view they affirmed that the pseudopodia of the amœba never extended beyond the limits of the red corpuscle, which must have occurred were the parasite merely attached to it" "Later observers, in studying the parasites of malaria, have never doubted their endoglobular position It is only recently that Mannaberg has again brought up this question"

Mannaberg (1893) says "it seems to me, also, that in regard to these forms (*i e*, small unpigmented parasites) Laveran's opinion is correct, whereas the endoglobular situation of the large pigmented bodies is to be held as proved"

Rowley-Lawson (1914) states that "Laveran, in referring to the external situation of the malarial parasite to the red corpuscle, says — 'Osler noticed that the amœboid bodies which adhere to the red blood corpuscles can be detached and become free in the blood,' adding, that this was one of the arguments on which he relied in maintaining that the parasites were only attached to the surface of the red corpuscles"

Since the early observations quoted above the presence of the malarial parasite as an endoglobular parasite seems to have been taken as an established fact until in recent years Dr Mary Rowley-Lawson began to dispute the statement This author for the last nine years has been advocating the opinion that the malarial parasite is attached to the outer surface of the red cell and is not inside the cell as believed by most observers In support of her theory she has produced many papers illustrated with microphotographs and coloured plates showing parasites apparently attached to the outer surface of red cells Dr Rowley-Lawson (1914), recapitulates her opinion as follows —"I believe the malarial parasite to be extracellular throughout its existence, that is, except for brief periods when it is free in the blood serum, it is attached to the external surface of the red corpuscle"

The probable reason that the position of the parasite has not been questioned before is that since the introduction of the more precise staining methods for the study of the malarial parasite, the examination of the parasite in fresh preparations (*i e*, under more natural conditions), except to see flagellation, has gone out of fashion

The fresh red blood cell is a biconcave disc which is on an average only 2 5 mu thick at the periphery and 1 5 mu to 2 0 mu thick at the centre and must be even thinner in dried films With a cell of such thinness it seems to me that the same optical appearance would be obtained whether the parasite was attached to the upper or under surface of the cell or whether it was inside the cell and that it would be impossible to say whether a parasite situated in the same perpendicular plane as the cell, was inside, above or below the cell (Figs 1, 1*a*, and 3, 3*a*), just as it is impossible to say from optical appearances whether a blood platelet is on, in, or below a red cell

If one could increase the thickness of the cell, or change its shape so that it did not lie on one of its concave surfaces as in the ordinary thin film, one should be able to get a much clearer idea of the true position of the parasite in relation to the red cell

The shape of the red cells can be changed by varying the concentration of the medium in which they are Thus Starling (1920) says "if the blood is concentrated by evaporation or by the addition of neutral salts, its osmotic pressure rises and water diffuses from the corpuscles into the plasma, in order to equalise the osmotic pressure within and without the corpuscle The latter therefore becomes wrinkled and crenated On the other hand, dilution of the plasma diminishes its osmotic pressure below that of the corpuscles and water therefore passes into the latter, which swell up and become spherical, and if the plasma be made sufficiently dilute the corpuscles burst with the liberation of the hæmoglobin they contain"

Schafer (1920) also says "the ordinary observed effect of such lowering of tonicity of the surrounding medium on the biconcave red blood cell of mammals, is that at first it assumes a cupped and then a globular form."

A series of experiments were conducted on these lines

Sub-tertian malarial parasite

To ascertain whether any more certain interpretation of the relative position of the malarial parasite and the red cell could be obtained two series of experiments were done

In the first series the blood was rendered hypotonic and in the second series hypertonic. The blood was taken from cases of sub-tertian malarial infection showing parasites about 24-30 hours old

(A) Effect of hypotonic conditions of the serum on the relative positions of the malarial parasite and the parasitised cell *in vitro*

A series of drops of blood was placed on cover glasses in moist chambers, some of which were kept at room temperature, and some placed in an incubator at 37°C These drops were made into films at times varying from 10 to 30 minutes and then fixed and stained with Giemsa's stain

A second series of measured quantities of blood were mixed with equal amounts of 0·72 per cent sodium chloride solution, blown on to a slide, covered and ringed with vaseline

Similar preparations were made with 0·63 per cent, 0·54 per cent, and 0·45 per cent sodium chloride solutions After ½ to 1 hour these were made into smears and stained When these preparations were examined one was struck with the very large number of accole forms, of forms apparently stuck on the outer surface of the red cells, and of forms embedded in cup-like hollows on the surface of the cells and projecting beyond the margin A film of blood taken from the patient at the same time was examined for the presence of similar forms but it was only after prolonged searching that a few accolé forms could be found and none of the other forms were seen

One must now consider what would be the appearances produced on the apparent position of the parasite by the assumption of a cupped or a globular form by the parasitised cell (*a*) if the parasite is intracellular and (*b*) if it is extracellular (Figs 1 to 6 and 1*a* to 6*a*)

(*a*) If the parasite is intracellular, in untreated blood it would appear from the side as in fig 1, while when seen from above it would appear like fig 1*a* When such cells swell up and become globular owing to the hypotonic condition of the surrounding medium the change in shape of the cell wall should have no effect on the apparent position of the parasite which should appear as in figs 2 and 2*a*

(*b*) If the parasite is extraglobular it would appear in untreated blood when seen from the side as in fig 3 and when seen from above as in fig 3*a*

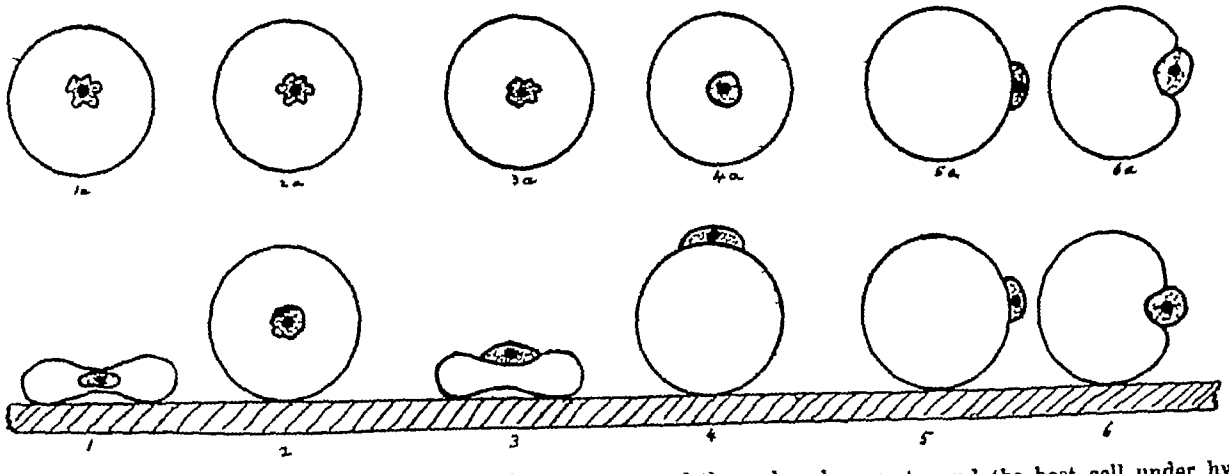
When such a cell becomes globular the parasite would be perched on its outer surface as in fig 4 and in a thin film the cell would tend to turn over on its side into the position shown in fig 5 If this does not occur naturally, the cell will be forced into this position, usually, when the smear is made, because the cell will tend to pass between the spreader and the slide in its smallest diameter, *i e*, that diameter which does not include the parasite For this reason in slides of blood in which the cells have rounded up and which have been smeared, fixed and stained, one would naturally expect to find large numbers of accolé forms and forms stuck on the margin of the cells as was found in the above experiments

If the cell has only become cupped the same marginal effect would be produced if the parasite was on the convex surface, but if it were lying in the concavity of the cup it might appear as in figs 6 and 6*a*

(B) Effect of hypertonic conditions of the serum on the relative positions of the malarial parasite and the parasitised cell *in vitro*

One series of drops of blood was allowed to lose moisture by evaporation and was then smeared, fixed and stained Another series was mixed with hypertonic saline so as to produce crenation and afterwards made into smears, fixed and stained

One must now consider what should theoretically be the appearances produced on the



Figures 1*a* to 6*a* illustrate the variations in the relative position of the malarial parasite and the host cell under hypotonic conditions of the serum The figures in the lower line (1—6) represent the red cells as seen from the side, while those in the upper line (1*a*—6*a*) are the same cells as seen from above

apparent position of the malarial parasite by the crenation of the parasitised cell

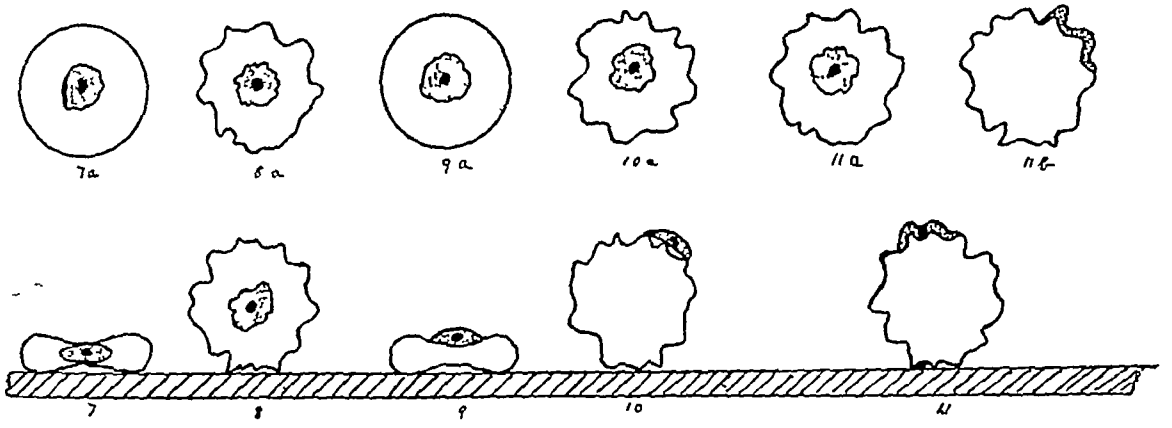
(*a*) As in the first experiment, if the parasite is inside the cell, changes in shape of the cell wall should have no apparent effect on the position of the parasite (Figs 7, 7*a*, 8 and 8*a*)

(*b*) The parasite if extracellular is presumably spread out as a thin layer on the surface of the cell (fig 9) and when the cell becomes crenated the resulting crenations should either force it off as in fig 10, if its hold is not firm, or if its hold is firm, then the pressure from beneath it, should carry it up as a layer covering the crenations as in fig 11

recorded above were due to the abnormal conditions under which the blood cells were placed. Schafer (1920) notes that the hæmoglobin is extruded from the mammalian erythrocyte as a globular mass by the action of tannic acid, and that in the red cells of the newt under the action of boric acid, the hæmoglobin "becomes wholly or partially collected around the nucleus, which is then extruded"

Gruner (1913) states that "artificial denucleation may be induced by boric acid, urea, tannin, etc, applied to the wet preparation"

No such drastic measures were employed in the experiments described here nor in the fresh



Figures 7*a* to 11*b* represent the variations produced by hypertonic conditions of the serum The figures in the lower line (7—11) represent the cells as seen from the side, while those in the upper line (7*a*—11*b*) are the same cells as seen from above

As the crenated cell is very irregular in shape and it would not have the same tendency to lie so that the marginal forms were as abundant as after treatment with hypotonic saline

In these experiments it was rare to see forms like fig 10, so presumably the attachment of the parasite to the cell is fairly firm

Marginal forms, apparently extracellular as in figs 11 and 11*b*, were fairly common

In those cases where the cell had not turned on its side, so that the parasite was seen attached to its edge, it could be seen lying on its upper or lower surface In the cases where the parasites had been forced up by crenations they could be seen to be on a distinctly different level from the host cell

The extracellular forms found in these experiments and more especially those found after hypotonic conditions were exactly similar to the extracellular forms depicted by Rowley-Lawson (1918) in smears from sub-tertian malaria

This author appeared to find the forms she describes after prolonged search It would therefore appear to me that on the few occasions in which she found them in relative abundance that something had occurred to change the tonicity of the blood before it was dried and fixed, so producing an effect similar to that obtained by me in the above experiments

It might be argued that the appearances

preparations did the cells, to which marginal forms were attached, seem to show loss or clumping of the hæmoglobin, whilst the stained specimens showed no abnormality which could be interpreted as due to either of these changes There were none of the creased and distorted cells which one sees when a film has been dehæmoglobinised

It also seems hardly likely, if the results obtained were due to the parasite having been extruded by such abnormal conditions, that both hypotonic and hypertonic variations would have the same effect and both make the parasites appear extracellular

It might also be argued that these variations in the saline concentration had the effect of weakening the wall of the blood cell and of making the parasite more liable to be extruded or forced out of the cell in smearing the blood To exclude such accidents I have made smears with cigarette paper and obtained the same results

I agree with Rowley-Lawson (1914) who says "I do not believe that in smearing the blood it would ever be possible to reach the parasite, if it were submerged beneath the surface of the red corpuscle, in order to pull or squeeze it out, without damaging the corpuscle beyond repair" The cells in my preparations which had

"extracellular" parasites attached to them showed no such damage

Benign Tertian Parasite—Maurer many years ago stated that it was his belief that the sub-tertian parasite did not enter the red cell until it was from 24-30 hours old The above experiments would tend to bear out this belief, if the reasoning as to the position of the parasites is accepted as correct, but would not prove that all asexual forms of the malarial parasite are extracellular during all their cycle in the human host For this reason it was necessary to conduct similar experiments with blood from a case of malaria due to the benign tertian parasite Blood from cases of infection with *P vivax* was placed under hypotonic and hypertonic conditions The parasites in the fresh blood were numerous, very actively amœboid and about 30-36 hours old

Bass and Johns (1912), found from the examination of cultures that the "large æstivo-autumnal plasmodia are round or oval, the tertian variety are more or less flattened" For this reason one would not expect that the more flattened benign tertian parasite would project so markedly from the host cell under the above conditions as the more rounded sub-tertian parasite, nor would the cells have the same tendency to lie on their sides as in fig 5

When preparations of the above blood, after hypotonic treatment, were stained and examined, parasites could be seen apparently extracellular running along the margins of the cells, often with their pseudopodia extending on to the surface Such parasites did not have the rounded appearance seen in the sub-tertian parasite but seem spread out in a thin layer In many cases it seemed possible by careful focussing to trace the pseudopodia of such parasites in two layers, one on the upper surface of the cell and one on the lower surface

When such parasites were not marginal but on the surface of the cell they did not give one the impression of being inside the cell but rather that they had been painted on its surface

When parasitised cells were placed under hypertonic conditions the thin parasitic layer of protoplasm could be seen raised on the crenations as described in the case of the sub-tertian parasite

To further confirm these results blood was taken from a case of sub-tertian malaria and allowed to drop directly from the finger into a tube of Mater's modification of Schaudinn's fixative fluid After fixation the blood cells were passed through various strengths of alcohol to dehydrate them, then cleared in cedar oil, embedded in paraffin and cut into sections from 4-8 μ thick It was hoped that in this way one would get the blood fixed instantaneously in a natural condition without any possibility of extrusion of the parasite by abnormal conditions and that by cutting sections one would be able to study the relative positions of the parasite and host cell from all angles

The sections were stained with Giemsa's stain and mounted in Canada Balsam When these sections were examined those parasites, which in dried films would have apparently been intracellular, could be seen on careful focussing to be on a different plane from the host cell and to be attached apparently to either its upper or its lower surface

When a lateral view of a parasite was obtained it often seemed to be saucer-shaped, spread out and grasping the surface of the cell Those parasites with long amœboid processes seemed to have these processes spread *along* the surface rather than *in* the interior of the cell In some cases, as in the hypotonic experiments, the processes seemed to be in two layers, one on the upper surface of the cell and one on the lower while the rest of the parasite was spread along its margin

Can any other interpretation be placed on the appearances found in these sections?

It might be said that the parasite is not free inside the host cell but firmly attached to the inner surface of its wall so that any change in position of the wall carries the parasite with it This might explain the appearances seen in the sections but would not account for all those seen in the other experiments

If the parasite is attached to the inner surface of the cell wall, it may cause a thinning of the wall at its site of attachment, so that, when the cell swells under hypotonic conditions, it is this thin portion which bulges most, carrying the parasite with it, so that the parasite comes to appear extracellular, but one would not expect to see parasites so markedly extracellular, as one does, without a rupture of the cell wall if this was the explanation of these appearances At the same time this would not explain the forms shown in fig 6

If this was the explanation, under hypertonic conditions, one would not expect to see parasites extracellular but rather invaginated into the interior of the cell and not perched on crenations

Some other points in favour of the extracellular position of the malarial parasite

Schaudinn in 1902 and Christy in 1903 both stated that they actually observed young benign tertian parasites enter the red cell but since those dates no other observer seems to have confirmed these results

The morphology of the red cell is a "thin flattened disc, slightly concave on one side, more so on the other" When a blood smear is made, the cells, on account of their flattened shape, tend to lie on one of their concave surfaces and when parasites are seen occupying one of these concave surfaces they would appear the same whether they were inside the cell or outside the cell as mentioned above If the parasite is extracellular the concave surfaces would appear to be points of vantage for the parasite because the concavity of

the cell would afford the parasite a certain amount of protection against the dangers of being rubbed off by the other blood cells as they flow past in this circulation, before it has obtained a firm hold on the host cell As the parasite grows it would tend to spread over the hollow in various directions as a flat layer When the red cells circulate their margins are much more likely to come in contact with other cells than their concave surfaces are, so that if any *pseudopodia* wander on to the margins of the cells it is possible that the mechanical stimulus which they receive from hitting against other cells causes these *pseudopodia* to be withdrawn so confining the parasite, in its earlier stages at least, to the concave area of the cell

After the administration of quinine the presence of the younger schizonts free in the blood plasma has frequently been observed, and as pointed out by Rowley-Lawson (1914) "this being so, if the parasites were submerged beneath the surface of the red corpuscles, then the quinine would have to destroy the substance of the red corpuscles in order to release the parasites, but with the parasites attached to the external surface of the corpuscles, their detachment is more easily explained"

Summary

In the experiments described above, results have been obtained which I am unable to explain satisfactorily except on the hypothesis that the sub-tertian and the benign tertian malarial parasites are, for most of their asexual cycle in the human host, attached to the outer surfaces of the red blood cells

These results are published in the hope that renewed interest will be stimulated in this problem and that further investigations will be made which will settle definitely the disputed point of the relative positions of the malarial parasite and the red blood corpuscle

It is hoped at a later date to give fuller details of the work described here and an account of further experiments which seem to bear out the conclusions which have been tentatively arrived at

My thanks are due to Lieutenant-Colonel W F Harvey, CIE IMS, Director, Central Research Institute, Kasauli, who kindly placed a laboratory at my disposal and to my assistant Sub-Assistant-Surgeon J D Batly, I M.D, for the assistance which he has given me in carrying out this work

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GLEANINGS FROM THE RECORDS OF THE GOVERNMENT MATERNITY HOSPITAL, MADRAS

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and

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An analysis of 459 cases of Puerperal Eclampsia treated in the Government Maternity Hospital Madras, between the years 1908 and June 1922

WE propose in this article to give the experiences of this hospital in the treatment of puerperal eclampsia, and to touch upon some of the salient features of this condition noted here

So far, no analysis of a large number of cases of puerperal eclampsia in Indian cities has been published in recent years The last article on the subject was a paper read in 1908 by Major G G Giffard, a former Superintendent of this Hospital and now Surgeon-General with the Government of Madras, before the South Indian branch of the British Medical Association on "Twenty years of Puerperal Eclampsia at the Government Maternity Hospital," being an analysis of 365 cases of Eclampsia

Incidence of the disease—During the period under review, there were 33,300 cases admitted among whom there were 459 cases of eclampsia giving an incidence of 1 38 per cent The following table indicates the incidence of eclampsia in other large clinics —

	Total	No of cases	Percentage
Goldburg	10 717	81	0·75
Cassemayor	16 225	99	0·61
Knapp	7 638	41	0 53
Newell	6 700	99	1 17
Reinburg	26 511	80	0 34
Lichtenstein	14 836	400	2 68
Williams	11 000	110	1 00
Government Maternity Hospital Madras	33,300	459	1 38

Eclampsia varies markedly in frequency in different years, the maximum having occurred in

the year 1920 with a proportion of 1 in 49 and the minimum in the year 1909 with a proportion of 1 in 112

Of the 459 cases, 332 occurred among primi-para and 127 among multi-para giving a proportion of 72 34 of primi and 27 66 multi The proportion of primi-parous women reported by Knapp, Olshausen, Cassemayor and Goldburg is 71, 75, 77 and 86 4 per cent respectively It is generally stated that twin pregnancy and hydramnios appear to act as predisposing factors, the former condition having been noted in 8 and 5 7 per cent respectively, by Olshausen and Cassemayor whereas the usual ratio is said to be about 1 5 per cent In our series there were 10 cases of twins giving a proportion of 2 25 per cent, while the ratio of twins to total deliveries was 1 4 per cent There were no cases of hydramnios noted in this series

As regards age incidence the following table shows the age incidence in eclampsia —

Age	13	14	15	16	17	18	19	20	21 25	26 30	31 35
No of cases	1	7	16	45	28	105	28	89	87	31	16

It will be noted that 69 5 per cent of the cases occurred within the age of 20 which is due to the early incidence of pregnancy in Indian women and the consequent large proportion of primiparæ within that age

The following table shows the number of the pregnancy and the mortality among 459 cases treated

Para	I	II	III	IV	V	VI	VII	VIII	IX	X
No of cases	332	47	28	10	12	12	5	5	4	4
No of deaths	59	6	7	1	3	2	2	1	0	0

Table showing period of gestation when eclampsia occurred —

Period of gestation	6th month.	7th month	8th month	9th month	10th month
No of cases	17	42	76	51	273

No case of eclampsia occurred before the 6th month nor did any case occur in association with extra-uterine pregnancy or vesicular mole, of which there were 106 and 43 cases respectively among the 33,300 deliveries Fully 70 per cent of the cases occurred in women at or near full-term

The following table shows the number of cases of *ante, intra* and *post-partum* eclampsia that occurred in this series and in other clinics

Clinics	A P	I P	P P
Olshausen	40	46	14
Knapp	21 5	60 9	14·6
Goldburg	26	57	17
Reinburg	49 5	29 5	20
Lichtenstein	21	61 5	17 5
Williams	55	22	23
Government Maternity Hospital, Madras	11·76	77 13	11 11

It will be noticed that there is a considerable discrepancy in the proportion of ante-partum and intra-partum cases which is perhaps due to the method of classification adopted We classified as intra-partum eclampsia all cases where labour terminated within 24 hours after the occurrence of the first fit

The presence of albumen is not a constant factor in cases of eclampsia We noted 61 or 13 29 per cent of cases where albumen was absent throughout The average number of eclamptic fits noted among primi-para was 6 6 and among multi-para 6 The maximum number of fits recorded in any single case was 40

Marked mental derangement was noted in 26 or 5 67 per cent of the cases treated It is not infrequent, particularly in the intra-partum variety, for patients to be irritable and even violent for a few hours after regaining consciousness

The number of cases in which eclampsia recurred in subsequent pregnancies was two (one in which it occurred during first, fourth and fifth pregnancies and the other in the first and third pregnancies) Recurrence of eclampsia in subsequent pregnancies is rather rare We have come across cases in our private practice in women who have had eclampsia in more than one pregnancy

Prognosis in Eclampsia—There were 81 deaths among 459 cases treated giving a proportion of 17 64 per cent The mortality among primi-para was 17 77 per cent, among multi-para 17 33 per cent, showing that the prognosis is not more favourable in primi-para than in multi-para Veit on the other hand gives a mortality of 14 3 per cent for primi and 19 1 per cent for multi, and Goldburg and Lichtenstein state that the disorder is twice as dangerous in the multi-para Our experience is in agreement with that of Olshausen who holds that there is no difference in the two groups

Table showing the mortality among A P, I P and P P varieties —

	A P	I P	P P
Cases	51	34	51
Deaths	4	73	4
Death rates	7 4	20 62	7 84

The prognosis is, therefore, more serious in the intra-partum variety than the post-partum, and our experience is not in agreement with that of Olshausen and Lichtensein who are reported to have lost 25 and 27 per cent respectively of their cases of post-partum eclampsia

Table showing mortality among the natural and aided deliveries in primi and multi-paras —

	No of Primi	Deaths	Per cent	No of Multi	Deaths	Per cent	Total Mortality
Natural	136	14	10 3	93	15	16 13	12 67
Aided	188	39	20 75	27	4	14 8	20 00

It will be noted that the mortality among aided deliveries is 7 3 per cent more than in the natural.

is given hypodermically A record of blood-pressure is kept, the blood-pressure being taken every 15 minutes and if it does not fall within an hour of the injection of veratrone, the dose is repeated A good bowel wash is given and if the patient is conscious 1 to 1½ ounces of mag sulph by mouth is administered If the fits recur the morphia is repeated but we generally find that with a falling blood-pressure and half a grain of morphia the fits do not recur, or if they do, they do so at long intervals Sometimes the injection of veratrone produces a sharp fall of blood-pressure bringing it down to 60 m m But this need not cause any anxiety In rare cases where the collapse seems severe saline and glucose per rectum is given every two hours We have also been using veratrone as a prophylactic in cases of pregnant women who are admitted with a high blood-pressure and although we have not had a sufficiently large number of cases to draw conclusions from, we feel that we can safely state that it shows a decided improvement in the condition of the women and the chances of developing eclampsia are considerably lessened We hold strongly that any attempt at accouchement force is distinctly contra-indicated in cases of eclampsia Fifteen years ago, Major-General G G Giffard, C S I, I M S, in the paper referred to at the beginning of this report spoke in strong terms against this practice and ended by saying —

"It would seem to most surgeons particularly inadvisable to set about performing a severe surgical operation on a person who is known to have severe kidney mischief, more than suspected to have acute hepatic toxæmia and whose nervous system is in such a state of exclusive irritability that she is in danger of immediate death during an epileptiform fit, and yet *accouchment-force* is actually being loudly advocated as the correct treatment by some men of much experience I personally do not intend to teach or to practice this form of treatment until I see much better results than have as yet been published"

We are in entire agreement with the statement made above and our results since 1907 have likewise proved confirmatory

In conclusion, we wish to thank Drs P K Parasuraman and R S Viswanathaiyer, House-Surgeons of this hospital, for the valuable help they have rendered in preparing this statistical table and tabulating the results, etc

COMBRETUM PILOSUM ROXB AS AN ANTHELMINTIC FOR ASCARIS LUMBRICOIDES

By G C RAMSAY, O B E, M B, Ch B (Edin),
Labac Central Hospital, Cachar

Combretum pilosum grows luxuriantly as a shrub in the plains districts of Cachar My introduction to the therapeutic virtues of *Combretum pilosum* was in November 1919 when I found a few Nagas collecting the fruit of this jungle shrub in the vicinity of my Central Hospital On being interrogated as to the use of this fruit the Nagas informed me that they ate it to get rid of "Worms"

I subsequently discovered that the fruit is largely eaten both by tea garden coolies and villagers as an anthelmintic and further the young leaves are often chopped up with flour and eaten as "Worm Cakes"

The shrub is known as *Bhooree Loth* by the tea garden coolies and as *Jhoona Loth* by Bengali villagers

In Birdwood's "Practical Bazaar Medicines," Small's "Anglo-Urdu Medical Handbook" and Kanny Lall Dey's "Indigenous Drugs of India" there is no mention of the therapeutic uses of *Bhooree Loth* or *Jhoona Loth* I sent some fruit and leaves to the Chief Scientific Officer, Indian Tea Association, Tocklai Experimental Station, Assam, who diagnosed *Jhoona* as *Combretum pilosum* This was confirmed by the Botanical Survey of India, Calcutta, who kindly supplied the following description of the shrub —

"A large scandent shrub without thorns, the innovations densely rusty-villous Leaves opposite, 4-8 in, usually when adult with some rusty hair at least on the lower surface, rarely glabrous, petioles ⅛ — ¼ in Bracteoles ¼ in, narrow—lanceolate, somewhat persistent Panicles terminal, the racemes densely fulvous-villous, and congested Ovary-sessile, young fulvous-villous Calyx shortly constricted above the ovary then funnel-shaped, hairy within and without, calyx-tube upwards 5-fluted, the segments triangular, acute, erect Petals narrow-obovate, far exceeding the calyx, with rusty silky hairs on their backs Disc low in the funnel of the calyx with short hair Fruit 1 in, elliptic or circular, usually pubescent, sometimes glabrous (Ex F B I) I am unable to give any information relative to the chemistry of the plant"

The only difference I can suggest from the above botanical description is that the older shrubs especially after pruning are occasionally thorny in the lower woody portion The leaves are never eaten by herbivorous animals and seem to be remarkably free from insect pests

In Byam and Archibald and Castellani and Chalmers I find that certain species of Combretum are used as arrow poisons by the Monbattu dwarfs in Africa, but it is not referred to in E Bernard Smith's book *Poisonous Plants of all Countries* In 1920 owing to the exorbitant cost of santonin I decided to test the therapeutic value of *Combretum pilosum* I made decoctions from the leaves and found that the active principle was a specific for *Ascaris lumbricoides* and *Oxyuris vermicularis* but seemed to have no effect on either *Anklyostomes* or *Trichuris trichura*

For decoctions I take two ounces of the powdered leaves, boil for twenty minutes in a pint of distilled water, then strain

The usual dose I administer is two ounces, but have given four ounces without ill effect Castor oil should be given in the evening, decoction *Combreti pilosi* first thing next morning, followed by *Ol Ricini* about two hours afterwards, when round worms may be found in the stools during the following thirty-six hours

Prior to the war practically the whole of the world's supply of santonin came from Russian Turkestan As is well-known the cost of this drug at the present time is about ten times the pre-war price In 1921 while investigating the incidence of helminthic infections among apparently healthy tea garden coolies in Cachar I found that from the stools of three hundred coolies examined 93 per cent harboured hookworms, 63 per cent *Ascaris lumbricoides*, 45 per cent *Trichuris trichiura* The hookworm diagnosis is based on stool cultures, the round worm and whipworm on microscopic examination for ova

To treat 63 per cent of the coolie population in my practice with santonin at its present inflated price would soon absorb any possible profits from the present day hard hit tea concerns Interesting articles on Indian santonin have recently appeared in the *Journal of Indian Industries* and *Labour* and *The Indian and Eastern Druggist* and it is to be hoped that the santonin content of the *Artemesia maritima* of Kashmir and Garhwal will be found in sufficient quantity to enable this excellent drug to become a marketable proposition

In the meanwhile I trust that this short note will stimulate the Drugs Manufacture Committee of the Government of India to investigate the chemistry of *Combreti pilosi Roxb*

To any keen investigators I will be pleased to supply samples for analysis and will render any possible assistance available in their researches

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DRAINAGE IN ABDOMINAL EMERGENCIES

By F F STROTHER SMITH,
MAJOR I M S,
Naini Tal

RECENTLY there has been a certain amount of correspondence in the *British Medical Journal* on the above subject

This correspondence points to the fact that in England the opinion is gradually being formed that in the past too much and often unnecessary drainage has been employed For many years I have been of this opinion and during the last few years having had a pretty large number of abdominal emergencies, I have been able to put my opinion into practice

I will take the subject of acute appendicitis as an example of abdominal emergencies and because it is the commonest Before discussing drainage I would like to write a few lines on the incision Where the case has been diagnosed early and where pus is not present in a localised abscess I always use the "gridiron' incision This incision gives plenty of room for removal of the ordinary inflamed appendix When I suspect many adhesions from previous attacks of appendicitis I use "Battle's" incision, *i e*, an incision through the rectus sheath near its outer margin The rectus muscle is pulled inwards and the posterior wall of the sheath opened This incision gives more room than the "gridiron"

In cases where a localised abscess is present a curved incision near the iliac spine is made and the peritoneum retracted inwards until the abscess cavity is reached

In the latter class of case, drainage of the abscess cavity is always necessary A counter opening in the loin should be made and a rubber tube inserted

In the first two classes *viz*, the acute appendicitis whether ruptured or not, the appendix is removed in the ordinary manner It is often found wrapped up in a mass of inflamed omentum and in many cases a small abscess or abscesses are enclosed in the omentum In this case the affected omentum is removed along with the appendix No drainage is as a rule necessary in these cases

Where the appendix has ruptured and where there are no adhesions separating the appendix area from the remainder of the peritoneal cavity, we must be guided by the condition of the peritoneal surface On opening the peritoneum if a fair amount of serous milky fluid escapes, the prognosis is good and drainage is not necessary I have seen a surgeon carefully flush out the peritoneal cavity with saline on the assumption that this serous milky fluid was pus It is *not* pus it is excessive peritoneal fluid and shows that the peritoneum is going to deal effectively with the amount of infection present On no account should the peritoneal cavity be flushed out or even this peritoneal fluid mopped up Remove the ruptured appendix in the ordinary way and if any infective contents or a concretion has escaped, remove by means of a swab Close the peritoneal cavity completely and use no drainage whatever Don't forget that the *peritoneum is the surgeon's best friend* Don't obstruct your friend in his effective means of combat—help him—in most cases by leaving him alone The less one meddles with the peritoneal surface of intestine or the parietal peritoneum the better

If on opening the peritoneum it is found to be dry or peritoneal fluid very scanty, the prognosis is bad as general peritoneal infection has occurred There will also be a characteristic Bacillus coli odour from the wound before you touch the appendix at all In this case it is necessary to

drain not the appendix area but the pouch of Douglas by one tube with strips of gauze inside, and this tube should not be left in more than 48 hours if possible

There are a few good rules about abdominal drainage —

(1) Never insert a drain between coils of intestine It should have abdominal wall on one side of it

(2) The drain should go in by the shortest route

(3) The drain should be left in as short a time as possible

The dangers of a drain or drains in the abdomen are many —

(1) A fæcal fistula is much more common after drainage

(2) Hernia is also much more apt to occur

(3) Obstruction of the intestine from adhesions

(4) Paralysis of intestine in the region of the drain

(5) When an unnecessary drain has been used, general peritoneal infection is liable to occur with distention of the intestine

The mortality in abdominal emergencies is laid at the door of the doctor who first sees the patient and fails to diagnose the condition until too late or until general peritoneal infection has occurred The earlier the patient is operated on the more favourable the prognosis

However besides the mortality due to late diagnosis there is a considerable mortality in cases operated on in the early stage or first 24 hours In my own opinion this mortality is due (1) to shock from prolonged operation and the patient being kept under chloroform or other anæsthetic too long, (2) to unnecessary drainage

In other abdominal emergencies such as ruptured gastric or duodenal ulcers, even if diagnosed early and operated on at once, as a rule stomach and duodenal contents will have escaped into the peritoneal cavity Here it is necessary to flush out the peritoneal cavity with saline and if the rupture can be stitched up effectively no drainage is necessary In some cases however the ruptured ulcer is surrounded by adhesions In these cases a small amount of stomach or duodenal contents escapes and can be mopped up without flushing out the peritoneal cavity No drainage is necessary in these cases

In cases operated on late, it will be necessary to place a drain in the pouch of Douglas

A Mirror of Hospital Practice.

A CASE OF ECHINOCOCCAL INFECTION OF THE EYEBALL

By Dr J SHORTT EVERS, M.D, D P H,
Tinnevelly

A Maravа woman 30 years old was admitted in the Government Head Quarters Hospital, Palamcottah on 14-7-22 for an ocular tumour on the left side The condition first started 3½ years ago with pain in the left orbital cavity photophobia, lachrymation and diminished acuity of vision The condition progressively became worse for nearly 2½ years, when she completely lost vision , she began to notice progressive protrusion of the eyeball The pain became more severe and aching in character till eight months ago, when the pain subsided

On examination there was a cystic swelling of the left eyeball, the size of a medium sized orange There was no vestige of the anterior structures of the eyeball, except the congested conjunctiva covering the swelling The tumour was non-pulsatile and slightly tender on palpation No cerebral signs or symptoms were elicited An ophthalmoscopic examination of the right eye revealed a normal healthy fundus It was decided to excise the tumour On 19-7-22, the tumour was removed and found to be an echinococcus cyst of the eyeball It appeared to have originated from the postero-external aspect of the eyeball, completely destroying the eye as well as the orbital fat The tumour consisted of a big mother cyst with a number of daughter and grand-daughter cysts

The specimen was sent to the pathological museum of the Elliot School of Ophthalmology, Madras The woman is still in hospital and is making an uninterrupted recovery It is proposed to fit her with an artificial eye I am reporting this case as I find the condition is rather rare in India

THE ADVANTAGES OF A SINGLE INFECTION

By R J L SLADEN, F R C S,
District Surgeon, G I P Ry, Jhansi

It is well-known that the body develops immunity to infection provided the infection is not too massive and time is available, but in trying to overcome this enemy, we have in the past too often added another infection to that already present and produced other new infections which the body is not prepared for The following cases recently under my care illustrate this point

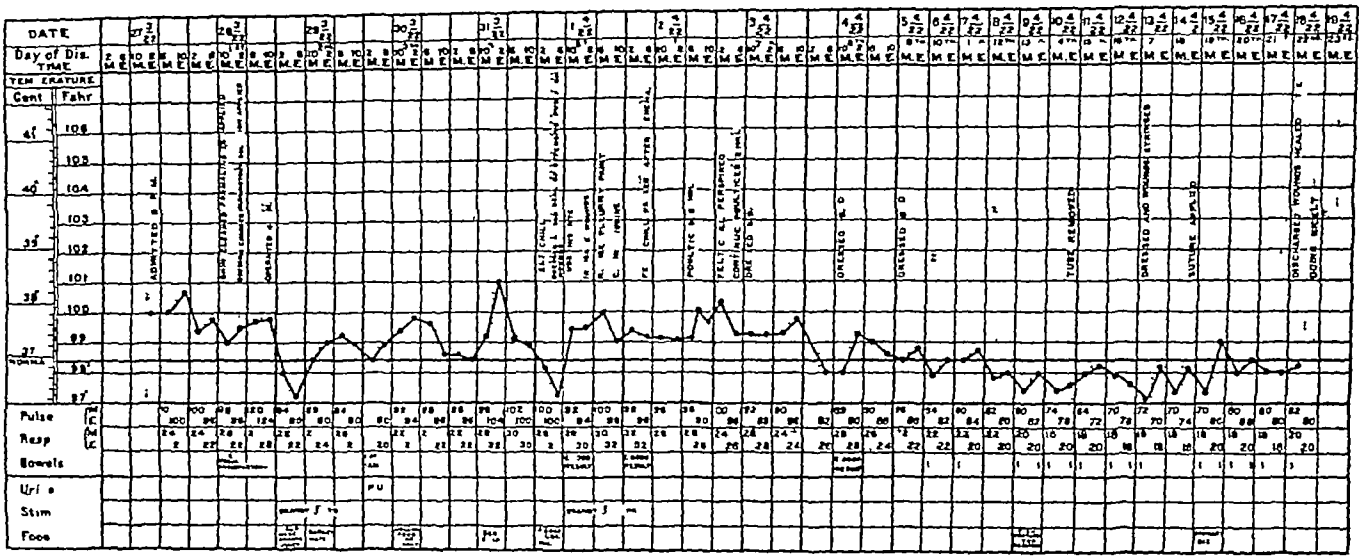
1 H F, a European, developed signs of appendicitis which was apparently clearing up on the 3rd day, so that it was considered advisable to postpone operation until immunity had been well established

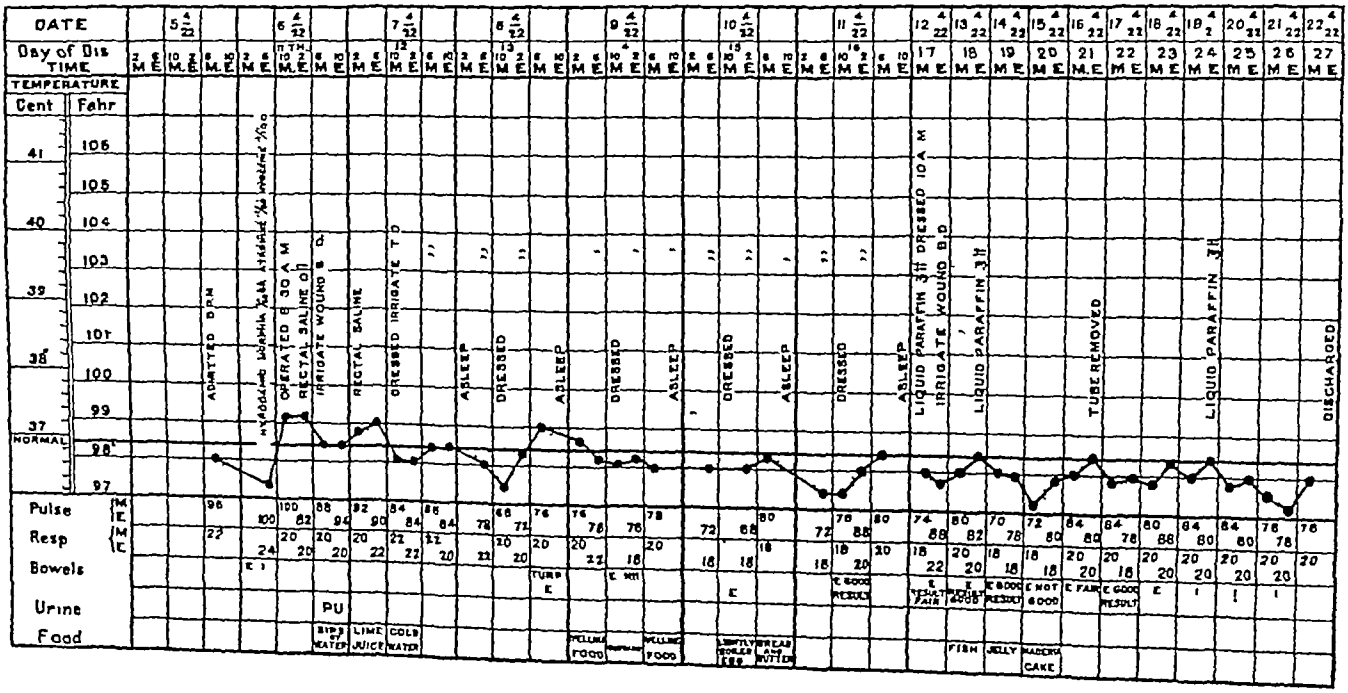
On the 7th day a definite thickening was noticed and on the 11th day it was obvious that an abscess was going to form Operation was then performed on the 6th April, 1922 A small abscess was found in which was placed two drs of ether, and a tube long enough to carry any fluid from the bed was sewn in and was securely placed in the abscess cavity and the wound carefully sewn up A Sprengle's glass pump was fixed to the end of the tube and made to act as a suction pump from the abscess cavity by means of irrigation from a douche-can hung by the side

THE ADVANTAGES OF A SINGLE INFECTION

By R J L SLADEN, FRCS,

District Surgeon, G I P Ry, Jhansi





of the bed The tube was removed on the 10th day and the wound healed by first intention The patient left the Nursing Home with a sound scar on the 16th day

2 R K, an Indian, gave a history of pain in the stomach with fever dating from October 1921 He was admitted into the Nursing Home with a swelling in the right iliac region and had an evening rise of temperature. He had all the symptoms of a peri-appendicular abscess This abscess was a much larger one than that in the first case and full of very offensive pus The same procedure was adopted as follows —

(1) The operation was performed on the 28th March 1922, and the wound sewn up

(2) A tube was put in and suction irrigation commenced on the 1st April, 1922

(3) The tube was removed on the 10th April 1922

He was discharged with the wound well healed on the 18th April 1922, and had in the meantime gained in weight and condition Under the usual treatment of placing a drainage tube and irrigating the wound, such cases used to be many weeks suffering from a discharging wound and the resulting scar was weak and too often became the seat of a hernia

A few months ago Dr Reynolds drew attention to this method of dealing with an empyema and more recently Sir Leonard Rogers mentioned the importance of maintaining a single infection when dealing with a liver abscess —

"The treatment of election should be repeated aspiration and the subcutaneous injection of emetine When such an abscess has eventually to be opened, some form of sterile syphon drainage should be made use of" (*Lancet*, April 8th, 1922)

The main object of the method employed in both cases was to maintain a negative pressure in the wound and to keep it protected, so that other organisms should not enter This is to my mind safer than sewing up the wound without drainage, because it prevents any pus formed subsequent to the operation from being locked up in the tissues

A CASE OF SARCOMA OF THE KNEE

By KASHI NATH MAJUMDAR, M.B,
Assistant Surgeon, Daltonganj

SUKUL PANERI, Hindu male, aged 20, of Janghasi village, Palamon district, came to hospital on the 25th of June for treatment He was found to be suffering from a very large sarcoma of the left knee The disease began with pain on movement of the knee at the beginning of November, 1921 The knee gradually increased in size and the patient was bedridden when brought to hospital, and unable to move the left lower limb I measured the knee and found that it was 32 inches in circumference The whole of the left leg and foot were much swollen The sarcoma had grown to this enormous size in a period of about 8 months

The left thigh was amputated at the junction of its upper and middle thirds by Rai Dr B N Bose Bahadur, Civil Surgeon, Daltonganj, on



June the 26th The patient has since progressed favourably but is still being kept in hospital to recoup his health

A PLEA FOR THE MORE COMMON USE OF LUMBAR PUNCTURE

By SAILENDRA KUMAR GHOSH, M.B, Calcutta

ONE afternoon I was called in to see a patient who had been maniacal for the past 24 hours He could not be kept in bed without restraint and was speaking nonsense all the time He had been subject to epilepsy for the past 3 or 4 years, and shewed a large scar on the left side of the skull from an old injury On examination I found that the temperature was 100° F, and the only clinical sign elicited was that movement of the neck caused him some pain

The blood was immediately examined for malarial parasites, but none were found On the other hand the W B C count rose to 20,000 per c mm I thought of lumbar puncture and carried this operation out after giving 1|3rd of a grain of morphia About 25 c c of turbid fluid were withdrawn under great pressure On examination the C S fluid shewed numerous pneumococci with numerous pus cells Evidently the case was one of pneumococcal meningitis

The next morning a few crepitations were heard scattered at the apices, the neck was rigid and the patient's condition was very bad He died the same night.

The case would not have been diagnosed but for lumbar puncture, and might easily have been mistaken for one of epilepsy only Lumbar puncture should be resorted to in doubtful cases and examination of the C S fluid as well as examination of blood films

THE PREVALENCE OF ILEOCAECAL KINKS IN APPENDICITIS

By F J W PORTER, D S O, (Retired), Bombay,
MAJOR, R A M C

During the last three or four years I have in a large number of cases found bands running from the lower end of the ileum to the cæcum in such a way as to bend the ileocæcal junction at an acute angle

Sir Arbuthnot Lane considers that these bands are caused by the erect position assumed by man and that they are suspensory ligaments and membranes whose function it is to support the viscera which tend to become displaced downwards into the pelvis and he does not regard these acquired bands as inflammatory in origin

Different views are held by other surgeons and many consider that they are inflammatory and result from inflammation of the appendix

Moynihan and Mayo may be counted amongst those who hold this view

I recently operated on a man who had been ill for 12 years with "colitis" and one of his greatest troubles was the existence of flatus which appeared to move as far as the ileocæcal valve and then went back again

In this case I found a band about 6" in length, loaded with fat and containing quite large blood vessels, instead of the usual thin membrane generally present His appendix was very badly ulcerated

His greatest joy after the operation was that after the third day he could expel the flatus which previously he was unable to do The diarrhœa, which I believe was due to colitis caused by extension of inflammation from the diseased appendix, rapidly got well

In this case I also operated at the same time for a large irreducible omental hernia on the same side, removing about 12 oz of indurated omentum

I have met with many patients who continue to suffer discomfort after the removal of an appendix, and whose symptoms are usually ascribed to the presence of post-operative adhesions, even in cases where primary union has taken place Personally I am inclined to think the presence of an ileocæcal band which had not been looked for at the time of operation is responsible

I therefore hold that it is the distinct duty of the surgeon to pull out and inspect the lower part of the ileum in every case of operation on the appendix and to deal with any band which may be present

No increase in the size of the usual gridiron incision is necessary for this purpose, and I am confident that the number of cases which display such a band will surprise the operator

It would hardly seem necessary to insist on the removal of an appendix flush with the cæcum, but I once met an officer who had been operated on by a distinguished surgeon in London and who shortly afterwards developed all the symptoms of appendicitis again He consulted another authority on this disease and because his operation had been done by a well-known surgeon he was accused of imagining his symptoms He found his way to Edinburgh and to a surgeon who was satisfied he was not malingering At operation it was found that about ¾" of appendix had been left by the first operator and it was full of pus

It is by no means impossible in some cases to think that the base of the appendix has been reached and so to leave a small portion behind

A CASE OF CONGENITAL HYDRONEPHROSIS

By Rao Bahadur W V KANE, B A, L M & S,
Civil Surgeon, Khandwa C P

W son of K, aged about 15, resident of village Navi, Taluka Yaval, District Jalgaon, was admitted on 25-7-21 for a cystic tumour occupying the epigastric, right hypochondriac and right lumbar region It was more or less round, smooth, soft, movable and fluctuating but not tender On percussion a dull note could be elicited over the tumour area A thrill could be made out when tapped with the fingers in front The rough boundaries of the tumour in front were ,—The right costal margin, above , mid-line of the body on the left ,—and a line drawn from the umbilicus to the right anterior superior iliac spine, below

Viewed from the back there was a distinct bulging in the flank on the right side between the last rib and the crista ilii, which increased when pressed from in front

Examination of the urine was negative and did not give any clue as to whether it was connected with the kidney or not There were no means for a cystoscopic examination nor was any ureteral catheterization possible The patient complained of intermittent attacks of pain in the region of the cyst every fortnight and sometimes every month He had had some digestive disturbances with obstinate constipation and occasional pain in the joints Beyond this there were no other symptoms

Previous history showed that the patient's health was fairly good, except that he had about 3 years ago an attack of fever with general swelling of the body This disappeared completely after a few days' treatment

As I could not determine exactly the nature of the tumour, or its relations to the surrounding organs, and as the patient was very anxious to have it removed, I decided to open the abdomen in front and deal with conditions as they presented

themselves A vertical incision was made through the outer third of the right rectus muscle beginning about an inch below the costal margin and ending to a point about 1" below the level of the umbilicus Upon opening the abdomen it was found that the cyst was transperitoneal I had therefore no alternative but to expose the posterior or lateral layer of the mesocolon by pushing aside the intestines The mesocolon was incised vertically and the cyst-wall exposed The anterior lips of both the peritoneal wounds, that of the abdominal wall and that of the mesocolon were united by catgut sutures and thus the cavity of the peritoneum was shut off, so as to avoid any contamination of the abdominal contents while dealing with the cyst The peritoneum was stripped off the cyst-wall While trying to find out the extent of the cyst it was noticed that internally it extended beyond the vertebrae in the centre—above to the liver—below to the crest of the ileum and it was impossible to pull it out of the wound entire It was therefore tapped and about 50 ounces of fluid let out While tapping it was found by the ammoniacal smell that it was urine The right kidney, which was not noticeable at first, now showed itself in the wound spread over the cyst-wall as the volume of the cyst diminished, and one knew that one was dealing with hydronephrosis The length of kidney spread over the cyst was about 8" and the parenchyma was completely atrophied The walls of the hydronephrotic cyst were thick and fibrous The ureter was not in any way dilated As the kidney was atrophied and appeared to be of no use in the economy and as the left kidney was doing the work of excretion, it was decided to remove the tumour The ureter was ligatured, the pedicle dealt with, and the kidney with the large pelvic cavity and a small portion of the ureter attached to it, was removed A large rubber drainage tube was inserted, one end being in the cavity from where the kidney was removed, the other end being brought out in the lumbar region at the back

Examination of the part of the ureter removed along with the kidney, by a probe being passed through the proximal end towards the pelvis of the kidney, showed that there was no communication between the ureter and the renal pelvis The upper end of the ureter ended in a blind pouch

Hydronephrosis is caused by obstruction of the excretory channels of the urine, more particularly obstruction of the ureter In this case there was no dilatation of the ureter, showing absence of obstruction of the lower urinary organs, while there was complete obstruction at the ureteropelvic junction This obstruction must have been either congenital or acquired

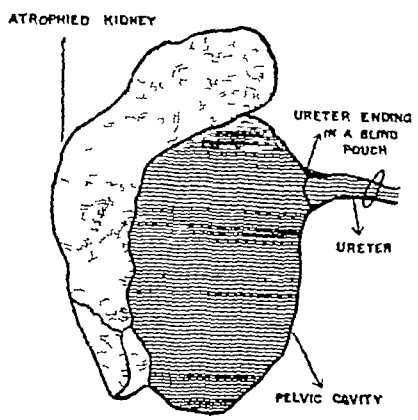
Acquired hydronephrosis is generally caused,—

1 By lesions of the walls of the ureter
2 By a faulty position
3 By external compression
4 By occlusion by a foreign body lodged within the lumen

In the case under reference none of these causes were apparently present So probably the case was one of congenital hydronephrosis Guiteras *in his Urology* says, "The ureter during intra-uterine life is not the smooth canal we see in adults but is constricted in some places and dilated in others, besides showing in its lumen numerous valvules formed either by the mucosa alone or by mucosa and the muscular layers These formations are frequently met with at the uretro-pelvic junction These normal valvules disappear later under the influence of normal growth and of the pressure of the urine In some cases however they do not completely disappear and therefore cause obstruction to the flow of urine If the obstruction is very marked, hydronephrosis results during fœtal life and exists at the time of birth Besides the increase in the size of the renal pelvis, other changes take place, such as adhesions at the upper ureteral segment In this case probably something of this sort may have happened, causing complete obstruction

The after-history of the case was not very important The patient had a temperature of about 100° F for a few days with some discharge from the drainage tube The quantity of urine for the first fortnight after the operation varied between 75 to 80 ounces, which later on diminished to about 50 to 60 ounces and remained the same till he was discharged

There was some pus in the urine for a few days but this also disappeared later on The patient was discharged cured on 15-9-1921, *i.e.*, 5 weeks after the operation



A CASE OF BREECH PRESENTATION

By Pundit SHAMBHU NATH MISRA, L.M.S.
Civil Surgeon, Sultanpur

I was called to attend a difficult labour case in the town at 12 o'clock noon, the patient being a Hindu female, multipara, aged about 30 All previous labours normal but after the last labour

she got parapelgia which had since continued She became pregnant in this state of health and when seen had been nearly four days in labour — the os dilated, the amniotic fluid drained off, and there being no presentation of the parts The pains also subsided and the whole abdominal tumour was found as a hard, solid, quite immovable mass

The village *dais* were in attendance and had handled the parts several times as usual It is needless to describe in what dirty surroundings I found her On examination per vagina I found a breech presentation quite stuck in the pelvic brim and fixed I at once asked the relatives to take her to hospital if they wanted her to live After persuasion they agreed and removed her to hospital

On further and complete vaginal examination it was found to be a case of incomplete pelvic presentation, the breech descending alone, the leg being directed upwards along the body of the fœtus The presenting part was jammed No fœtal heart-sounds were audible She was at once put under chloroform and the parts were well flushed with hot Condys' fluid Urine was drawn out and the parts flushed again The left hand after thorough aseptic technique and lubricating with sterile vaseline, was introduced in order to convert it into a foot presentation The uterus was very firmly contracted around the whole fœtus and with great difficulty and perseverance a foot was brought down Next the other foot was also brought down and then with traction on the feet and pressure with the right hand on the abdomen the body presented but the arms became extended The body of the child was drawn forward and the posterior arm was brought down and delivered Similarly the anterior arm was treated

Now there was difficulty with the head and with the help of forceps which could now easily be introduced the head was brought out The child was attended to at once and with the help of artificial respiration, the baby began to breathe The placenta did not present even after 20 minutes or so and hence it was removed manually Fortunately there was no rupture or any other accident either to the baby or the mother

Extract Ergot Liq in dram doses was given to the mother and after thorough cleansing of the parts and application of a big pad and bandage over the abdomen, the mother was put to bed

It is very pleasing to note that the mother and the baby had no after-birth troubles and made an uninterrupted recovery and were discharged on the tenth day

The case is of interest for the following reasons —

1 A long-neglected case
2 Chances of all sorts of infection through the dirty hands of *dais* and surroundings
3 No chance for internal or external version
4 No hope of a living child.
5 Patient and steady exertion to convert it into a foot presentation, although unsuccessful for some time, finally changed the presentation and no hasty resort was made to Cæsarian section
6 Careful and immediate attention to the baby saved the living child

In conclusion I must express my indebtedness to Dr Shyam Lal in charge of the Sadar Hospital for his help in the operation and for carefully looking after the patient

SOME INTERESTING "EYE CASES."

By S K GANGULY,

Calcutta

Optic Atrophy after Cholera—M M, aged 40, suffering from cholera was given the usual dose of hypertonic saline solution intravenously by Dr S Sen, M B The next morning he complained of blindness and I saw him in consultation 24 hours after the injection The patient was well nourished and had vision = perception and projection of light, half dilated pupils reacting sluggishly to light and normal discs and fundus oculi He and his relatives were told that sight would probably return and that the blindness was not due to the saline injection (B & W's Soloids were used) About a month after the discs were noticed to be slightly pale and the arteries thinner than usual Field of vision roughly taken showed marked concentric contraction Vision both eyes = 6|36 He could read newspapers but the lines seemed all curved and running on to the top of one another

2 *Quinine Amblyopia*—H M, aged 16, unconscious from an attack of malaria was seen by Dr S Sen at midnight and given an injection of ten grains of Quinine Bihydrochlor Patient complained of blindness the next morning when I saw him The discs were pale, arteries thin, pupils dilated and non-reacting, fields contracted He could count fingers but could not read Dr Sen treated him with drinks of tea and coffee, nitrites and later on with strychnine, etc Six months later he improved very much and has useful vision now

3 *Spontaneous Absorption of the Crystalline Lens*—A fisherman, aged 28, complaining of poor vision in the right eye came to me with Dr J Banerjee, M B Examination with the ophthalmoscope revealed an aphakic condition of the eye The distant vision improved to normal with + 13 00 sph and the near vision with + 16 00 sph The cornea and the pupil looked normal The anterior chamber was rather deeper as compared with the left eye Previous history (elicited with difficulty) was that a year ago, he had an injury in the eye which for a time took away all his sight He then treated his eye with indigenous medicine which he believed restored a little sight lately There were no marks of a surgical operation in the conjunctiva or cornea The left eye being normal, no glasses were prescribed

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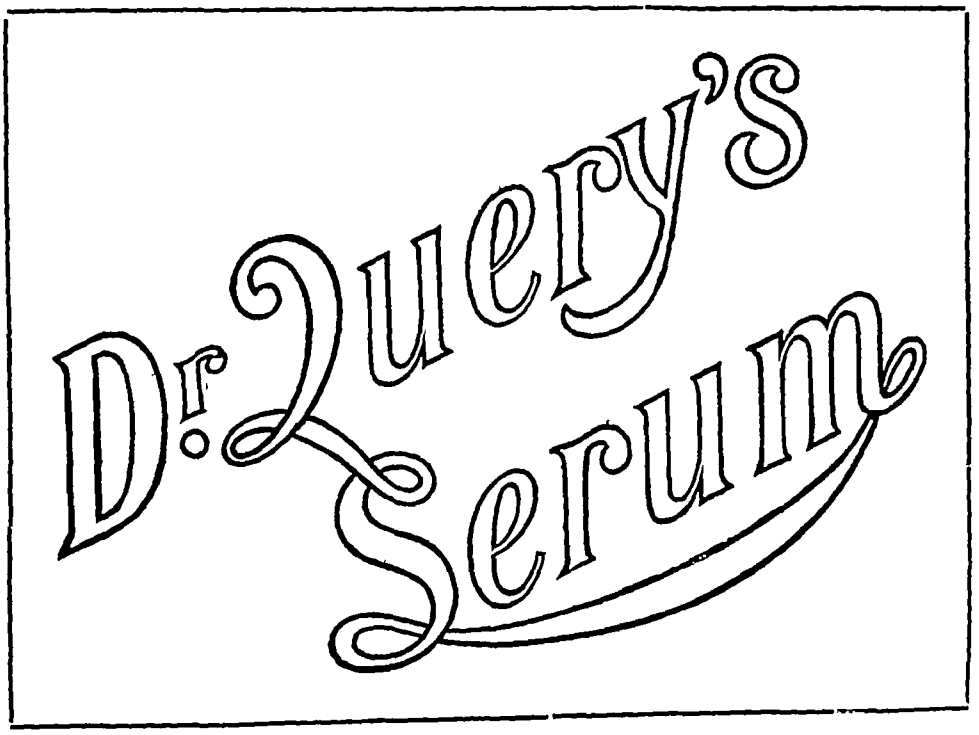
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(*Vide* Presidential Address, British Pharmaceutical Congress, 10th July 1918.)

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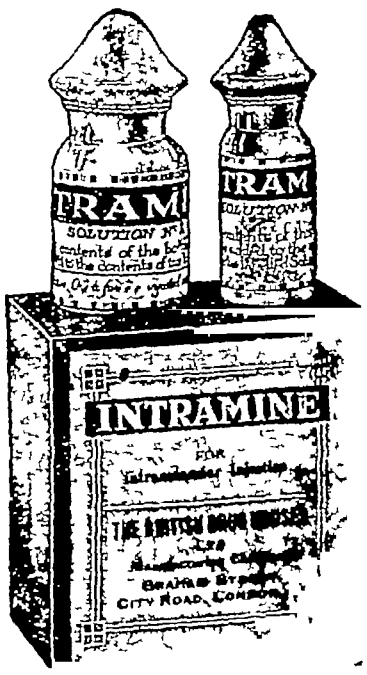
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Indian Medical Gazette.
OCTOBER

"E C"

India being a land of initials we are glad to welcome two which stand for something really useful In another column of this issue will be found a set of articles by Colonel Mackworth, Dr S B Laha and Mr C M Hutchinson on "E C" or Electrolytic Chlorogen Mr C M Hutchinson's original work on the problems of pebrine in Indian silkworms and on the improvement of Indian indigo production by the use of selected and standardised bacterial strains, as well as much of his work on many other Indian agricultural and economic problems is well known Since 1918, under the auspices of the Indian Research Fund Association, he has been working in conjunction with Captain W Hodgkinson, R E, on the production of a stable electrolytic chlorine solution, and "E C" is the result

The use of electrolytically produced free chlorine for disinfection is no new thing But the production of a stable solution by such means is The apparatus introduced by Captain Hodgkinson and Mr Hutchinson can be installed in any hospital or institution supplied with electric current, and with supplies of salt and lime from the bazaar, unlimited supplies of E C can be manufactured at a cost of approximately four annas per gallon Once prepared the solution contains about 2 5 per cent of available chlorine In the hills or during the cold weather in the plains and at temperatures of 20° to 22° C, E C remains stable and loses none of its chlorine content in 12 months During the hot weather in the plains, and at atmospheric temperatures of 30° C, (86° F), no chlorine is lost for six weeks, the available chlorine content then drops to 2 per cent, and this percentage is maintained for some six months In brief, the difficulties associated with the use of Eusol, Bleach and other similar preparations are done away with in the new preparation As Colonel Mackworth remarks, "E C is not only sufficiently stable to make it a practical proposition, but the samples are uniform, both very important factors, especially for surgical work in the field"

Free chlorine is the best of all germicides It kills B coli for example in a dilution of 1 in 75,000 without affecting tissue protoplasm, whereas the mercurial preparations, even though some of them kill B coli at dilutions of 1 in a million, kill tissue protoplasm Hence solutions of free chlorine are particularly suitable for general surgical work During the war the introduction of Lorrain Smith's hypochlorous acid solution, of Dakin's sodium hypochlorite solution, of the Carrel Dakin continuous irrigation method, and of excision and primary suture revolutionised war surgery Yet in India, the chlorine preparations have never come into general use, owing to their instability under Indian conditions With a stable and reliable preparation, however, the difficulties disappear Colonel Mackworth's account of the use of E C at the Sadar Hospital, Muzufferpore, will be read with interest by every surgeon in India At Muzufferpore E C has replaced all other antiseptics for surgical use, and a saving of Rs 1,500 per annum has been effected under this one head in this single hospital "I am tempted to say" he writes, "that since using E C not a drop of pus has made its appearance in the surgical wards If this is not quite true it is very nearly so" In 250 consecutive major operations, using E C as the only antiseptic, no sepsis has supervened As will be seen from Colonel Mackworth's article he uses E C as a local application for septic wounds, for sterilising hands, skin and silk ligatures, and for all general surgical purposes A record of such a year's work, 250 major operations free from all sepsis and a saving of Rs 1,500 in the budget of a Sadar Hospital will appeal to every civil surgeon in India Apart from its antiseptic value E C contains 20 per cent sodium chloride and has a strong lymphagogic action, thus when it is applied to septic wounds it acts also as a hypertonic saline dressing and secures a continuous flushing of the wound with fresh lymph A curious tribute from Muzufferpore to the value of this electrolytic antiseptic is that the dressers have lost a source of income in the diminished sale of second hand soiled surgical dressings

Turning from surgical use to general public health measures, E C may be of great value in epidemics of water-borne disease A dilution of 1 in 40,000 will sterilise a water supply, and no decomposition products of an objectionable nature are produced Water supplies sterilised with E C are free from the unpleasant "chlorinated" taste due—not to chlorine—but to decomposition

products of bleaching powder A bathing tank 40 by 120 yards and 9 feet deep can be sterilised by the addition of about 100 gallons of E C, at a cost of Rs 25 In connection with cholera epidemics and the tanks at Puri and elsewhere, the use of E C may entirely stamp out the disease Village wells can be sterilised at a cost of less than one anna per well—a fact to which the attention of impoverished Indian municipalities may be drawn

In India the problems of surgery, both in peace and war, of water sterilisation, of disinfection and of general public health are much more difficult than in Europe The cost of antiseptics is an ever recurring anxiety to every medical man in the country It would appear that in E C Mr Hutchinson has solved the problem An efficient, stable, reliable, and safe antiseptic at a cost of four annas a gallon is something which may do more for the country than decades of legislation The claims which Mr Hutchinson makes for the new electrolytic preparation are studiously moderate, but he emphasises its stability under hot weather conditions and its uniformity and constant available-chlorine content

As with all other newly introduced antiseptics, the true value of E C will only be ascertained with time and with clinical tests and experience But its low cost, its high bactericidal power, its stability and its freedom from decomposition products are all points very strongly in its favour In reality the medical situation in India is much more interesting than the political one Despite the assertions of all perfervid orators to the contrary, retrenchment is one matter, and reform another But in matters medical, India appears to be becoming less dependent upon outside sources and more self-supporting Major Acton has shewn how the treatment of malaria by the use of quinidine and cinchona febrifuge can be made more efficient and yet far cheaper than is the case where quinine is the drug used, and that India may shortly be able to supply all her own cinchona requirements Mr Hutchinson and Captain Hodgkinson have now introduced a new antiseptic for universal use which is easily manufactured, very cheap to produce, very efficacious as far as present reports go, and which may render India self-supporting in her requirements of antiseptics, disinfectants, and bactericides If E C fulfills the very great expectations which its valuable properties arouse for it, we may be on the eve of a vastly improved era of surgery and public health in India At least we may anticipate that in "the next war" the tired and dusty "Tommy" will find in the deserts of Mesopotamia or elsewhere a water supply which has been efficiently sterilised but which is so palatable that he will not know that it has been doctored, in place of an article which looks like water but tastes like ink

THE EPIDEMIC DROPSY OF BENGAL A PROBLEM SOLVED

On page 331 of the September number of this journal we had the pleasure of publishing the solution of an Indian problem which has for many years been of interest to workers in this country

In all probability the "epidemic dropsy of Bengal" is not epidemic and is not confined to Bengal Chevers, as long ago as 1826, drew attention to a form of disease in Calcutta associated with malnutrition, occurring in epidemic form among Hindus of the old school whose diet is very poor, and with symptoms of anasarca. The disease first aroused attention in the 1877 epidemic in Bengal, when Cayley, O'Brien, and later McLeod gave a careful clinical account of the disease The 1877 outbreak was associated with famine conditions in India generally In 1879 Lovell published an account of the disease as seen in Mauritius, and claimed that it was not contagious In 1901 a small outbreak of the disease in Calcutta gave Sir Leonard Rogers an opportunity for careful clinical observations In 1907—1909 an extensive outbreak affected Calcutta, Darjeeling, Sylhet, the Surma Valley, Shillong, and other parts of Bengal and Assam Outside its truly endemic area the disease is also known to affect Madras, and to a less extent, Bombay The 1907—1909 outbreak was again associated with famine conditions and with high prices In 1903 Cobb drew attention to a limited outbreak in Barisal Jail

In 1911—1912 Major (now Lieutenant-Colonel) E D W Greig, I M S, contributed a classical study of the disease to the already growing literature on the subject (Scientific Memoirs, Government of India, Medical Department Nos 45 and 49) This remarkably accurate and painstaking piece of work has to this day remained the standard authoritative account of the disease Colonel Greig shewed that the incidence of epidemic dropsy in Calcutta

coincided with periods of famine or high food prices, that no causative organism could be found in the fluids or tissues of the patients, that the disease closely resembled ship beri-beri but was different from ordinary land beri-beri, that it was brought about by a one-sided dietary, that Marwaris were practically exempt although living in the infected area, whereas the disease especially affected middle class Bengali Hindu households, and often affected within a week or two the majority of the members of the household, that the disease was associated with an almost exclusively rice diet and was *most* severe amongst Bengali Hindu widows, whose caste customs forbade the eating of any other article of diet, that the process of polishing the rice by steam heating had something to do with it, and—to sum up—"that the epidemic is brought about in times of high prices of food by the fact that the section of the population on small, fixed incomes is, on account of the rise in prices, *obliged to abandon* the purchase of adequate quantity and quality of supplementary articles of diet. Consequently the diet becomes 'one-sided.' When food prices drop this ceases, the diet ceases to be 'one-sided', and the epidemic terminates." Colonel Greig also drew attention to an outbreak in Basti Jail in 1907 and pointed out that it was a peculiar fact that the outbreak should have occured in the only jail in the United Provinces where rice was issued generally as an article of diet. He considered that epidemic dropsy was the result of a "one-sided" rice diet.

In Sir L. Rogers' 2nd edition of "Fevers in the Tropics" (1910), there occurs a passage with regard to epidemic dropsy which constitutes a remarkable anticipation of present day findings — "All the facts regarding the etiology can best be reconciled by the suggestion of Neil Campbell that epidemic dropsy is probably due to any form of rice which has developed mould or fungus on account of improper storage, which in its turn produces a poison. The fact that Burma rice is decorticated, and thus more easily invaded by fungi, would explain the greater prevalence of the disease during periods of extensive importation of this rice. Again the frequency with which outbreaks occur in the damp rainy season and in the exceedingly moist climates of Bengal and Assam is also readily explained as being due to deterioration of rice grains. This theory, then, appears to me to furnish the most likely clue to the solution of the mystery on experimental lines, it is worthy of the close attention of all who may meet with outbreaks of epidemic dropsy."

The enquiry at the Calcutta School of Tropical Medicine was begun in 1921 by Colonel Megaw, who has for many years studied the disease, and subsequently taken up by Major Acton. Major Acton's findings afford a remarkable clue to the curious incidence and distribution of the disease. The rice eaten by the wealthier Hindus is preserved by the addition of salt, lime and turmeric, and does not get infected by moulds to any extent. The rice eaten by the poorest classes is not seasoned, but is eaten fresh. It is also free from infection with fungi. Hence these two classes of the community are free from epidemic dropsy, and the large Marwari community of Calcutta, although living in the heart of the epidemic area, escape the disease. The rice eaten by the middle class Bengali Hindu however is seasoned *Balami* or *Desi*, but only preserved by the addition of rice flour or whiting. Further, this class of the population live on an almost exclusively rice diet, especially in times of high food prices. The rice takes two years to season. It is milled, polished and parboiled. Almost the whole of the aleurone layer, with some of the neighbouring starch cells, and most of the germ are removed during these processes, and this stored rice which is not protected by proper preservatives becomes especially liable to invasion by fungi. The fungi which especially invade it and which have been isolated from it are the Rhizopus and Aspergillus which hydrolyse the starches into sugars, and a Mucor, and a spore bearing ærobe which act on the more soluble proteids and proteoses of the rice and produce amines from the amino acids of proteid disintegration. These amines have been isolated from such rices and they have a special cardiac toxicity, acting on the perfused rabbit heart and causing a marked depression of the beat, whilst monkeys fed on the infected rice develop diarrhœa and œdema of the limbs. In brief, the etiology of the disease is that suspected by Neil Campbell in 1905, and *proteolytic* bacteria and fungi, and the poisonous amines have now been isolated from the infected rice. Epidemic dropsy differs from beri-beri in that peripheral neuritis is absent in the former disease, but it has a close resemblance to ship beri-beri, and possibly the latter disease may also be due to a similar cause. Major Acton's work affords the correct interpretation to Colonel Greig's view

of a one-sided dietary as the cause of the disease Further, epidemic dropsy is not due to absence of vitamines from the diet but to the presence of poisonous amines in the diet The coincidence of epidemic conditions with high food prices is due to the fact that the seasoned rices, badly preserved, are held up and overstored during the prevalence of high prices , and when prices are at their maximal, the rice merchants try to sell to realise the maximum profit The family and household distribution of the disease is due to the fact that all members of the same family consume the same samples of rice

Further work on the disease is, of course, essential , and experiments are now in hand with a view to its experimental study But it may be well to draw attention to Major Acton's findings at this juncture , since the conditions of the autumn of 1922 seem particularly suitable for an outbreak in Calcutta Food prices are at present very high , the middle class Bengali Hindu households are feeling the pinch severely; the monsoon of 1922 is providing an excessive rainfall with high humidity and increased likelihood of infection of the stored rice It may be anticipated that this autumn will see a localised outbreak, which will clear with the advent to the market of the winter rice about next March

Current Topics.

An Introductory Address on what is Medical Registration ?

By Dr KEDARNATH DAS

Delivered at the opening of the session 1922-23, at the Carmichael Medical College

In choosing a subject for the inaugural address, it occurred to me that as this is the first occasion on which students from this college have qualified themselves, it would perhaps interest them to know that although they have obtained a medical degree from the University, they will not be considered legally qualified until their names appear on the medical register I shall therefore attempt to explain what medical registration means, what are its advantages and its disadvantages

The Bengal Medical Act was passed as late as 1914 and the Bengal Council of Medical Registration came into existence in that year The Bengal Act was drafted on lines similar to the British Medical Acts of 1858 and 1886 and in offering the following remarks, I have taken full advantage of the working of the British Act for more than 60 years, so as to indicate the future possibilities of the working of the Bengal Medical Act

I must state at the outset that the Bengal Council of Medical Registration is neither a legislative body nor a union for protecting professional interests The Council has been created, neither to promote the welfare of professional men nor of medical colleges and institutions, nor to put down quackery, nor even to advance medical science The object in view is simply the interest of the public

When the Medical Bill was first introduced in the Bengal Legislative Council, its "objects and reasons" were stated to be "(1) to provide a means of protecting the public and the medical profession from irregularly qualified practitioners, whose training in medical science has been obtained at unrecognised institutions, and (2) to afford facilities for ascertaining whether any particular medical practitioner possesses recognised qualifications These objects are met by the maintenance of a register of medical practitioners and their qualifications and by conferring certain privileges upon practitioners who are registered" It does not prohibit in any way the practice of medicine and surgery by unqualified or unregistered persons and does not affect the practice of Indian Kabirajs and Hakims

In the bill the only duty of the proposed Council was to supervise the registration of medical practitioners But the select committee added the following new, and I should say, most important clause —

"19, the Council shall have power to call on the governing body or authorities of any medical college or school included in or desirous of being included in the schedule—

(*a*) to furnish such reports, returns or other information as the Council may require to enable them to judge of the efficiency of the instructions given therein in medicine, surgery and midwifery, and

(*b*) to provide facilities to enable any member of the Council (deputed by the Council in this behalf) to be present at the examinations to be held by such college or school" By the addition of this clause the Council has been given control over "Medical Education"

Judged by the Preamble, this Act has but one object, *viz*, "The registration of medical practitioners in Bengal" by the establishment of the Medical Register, thus drawing a very hard and fast line between the registered and the unregistered As a necessary corollary the Bengal Council of Medical Registration has been established and this body is vested with educational and disciplinary powers It will be possible to enlarge its sphere of work in other directions, *viz*, to safeguard the interests of the registered practitioners by firmly dealing with the unregistered if he attempts to usurp and thereby profit by the privileges of the registered

It will be seen that the Act is intended to set up machinery for, as it were, hall-marking the qualified practitioner so that he may easily be recognised when his services are required, but the public is nevertheless free to seek medical aid from unqualified practitioners if they like. And the unqualified practitioner will be left free to practice for gain among those who choose to employ and pay him He is forbidden under penalties to pretend that he is qualified by taking a title he does not possess, he may be proceeded against for penalties by any of the medical and surgical co-operative bodies whose jurisdiction he may infringe, he cannot give a valid certificate, he cannot hold a Government or quasi-government medical appointment—but except for these not very inconvenient disabilities, he is untouched by the Act.

On the other hand the "duly qualified" men as a set-off to their new legal status and Government recognition are subjected to a central control—educational and disciplinary They obtain no monopoly of practice, neither are they protected against the competition, not always scrupulous or insignificant, of the uncontrolled unqualified practitioners This control of qualified men practically commenced in 1857 when the University of Calcutta was established by an Act of Incorporation with powers to grant medical degrees The University imposed educational restrictions on medical graduates without offering any benefit to the profession There was no recognition of a mutual duty and obligation between the profession and the State The Bengal Medical Act is supposed to remedy this defect I believe that the restriction of practice to the qualified is enforced

by law in some countries, but to quote Sir Donald Macalister's words "in these days of Christian Science and Nature cure and Bile-Beans, it requires a good deal of optimism and some resolute ignoring of the signs of the times, to believe that in this free (and easy) country legislation to that effect is either probable or possible in the near future"

Under Section 29 of the Act an unqualified person can be punished, if he falsely pretends that he is registered or if he uses in connection with his name or title any words or letters representing that he is qualified But if he takes to himself six other persons as unqualified as himself and registers the compound individual as a joint-stock company, he can call himself what he likes He is no longer a person but a corporation with the usual and highly convenient negation of soul and body Thus the distinction set up by the Act is blurred by the operation of the Companies Act. The public may well be excused if they think they are dealing with qualified practitioners when they seek advice at the establishment (legally incorporated) of "Professors X Y Z and Co, Insanity Specialists" It is a curious fact that legislation is very tender towards unqualified practitioners of every kind except that of *Law* This state of affairs can be remedied by defining the word "person" to include "a body of persons corporate or not corporate."

In the Bengal Medical Act Section 29 is evidently inserted for the purpose of preventing unqualified persons from assuming deceptive titles, but as it is worded it may apply only to an unregistered person (qualified or unqualified) who falsely pretends that he is *registered*

Although the section apparently offers a good deal of protection to the profession and the public against quacks, yet such protection appears to be rather illusory The section does not state by whom the necessary prosecution is to be instituted and conducted and although by implication the power to prosecute is vested in the Bengal Council of Medical Registration, there is no explicit provision in the section to that effect, while on the other hand a private prosecution will often smack of jealousy and personal ill-feeling

The Act is quite silent with regard to the charlatan who prints and sends out false and impudent advertisement broadcast and swindles people thereby But can the legislature put down quackery with a strong hand so long as the public allow themselves to be injured and befooled by "unqualified amateurs" and refuse to be healthy and secure under legal compulsion by 'qualified experts'? I say no, because the usual frame of mind of the public in this respect, is to distrust the rule of the 'expert" and to admire the amateur' All that the legislature can do, is to set up a machinery to distinguish" the trained from the untrained practitioner, it then leaves the public free to make their choice—at their own risk Need I tell you that at present it is perilously easy for any person who has never crossed the threshold of a medical school and is entirely innocent of any medical training, to pose as a medical man and make a living out of the ignorant fears of the people.

The instrument which the legislature has set up for the purpose of making the distinction between the qualified and the unqualified is called the *Medical Register* The making and keeping of the register is entrusted to the Bengal Council of Medical Registration On the register will be the names of those who have passed certain tests of professional fitness These are styled "Registered Practitioners" and these alone the law declares to be "duly or legally qualified." The Council has to see that no practitioner who by crime or misconduct is considered unworthy of the legal status which registration confers, shall remain on the *register* The Council has also to see that the tests of professional fitness actually applied by the examining bodies are 'sufficient" for purposes of registration, so that those who pass them possess "the knowledge and skill requisite for the efficient practice of medicine, surgery and midwifery" The Medical Register shall be evidence in all Courts that the persons therein specified are registered [Section 32 (2)]

It may thus be seen that although the Medical Council is primarily a board of registration, with judicial and disciplinary powers, it has indirect control over medical education In fulfilment of its former function (*vide* Section 25), it will become a professional court of justice with powers to conduct an enquiry The procedure to be followed by the Council for conducting such enquiry is regulated by rules framed for this purpose by the Local Government and must as nearly as possible follow the forms and rules customary in other courts with the exception that it will have no authority to compel the attendance of witnesses, to administer an oath or to call for the production of documents When a charge is proved to its satisfaction, it can give only one judgment, *viz* "guilty of infamous conduct in a professional respect" and only one sentence *viz*, "erasure from the register" An appeal shall lie to the Local Government but not to the High Court against the decision of the Council

The guardianship of the Medical Register and of its accuracy is committed by the Act to the Bengal Council of Medical Registration, but it has in it the potentiality of a wider and weightier stewardship The Council of Medical Registration is bound in time to grow into a judicial tribunal of medical conduct This has been the experience of the working of the "Medical Acts" during the past half a century

As actual cases come before the Council for decision, a body of precedents and rulings will be built up which will form the common law of medicine, so that although strictly speaking, the Council is not an "enacting body, it will in effect *develop* law

I know practitioners are greatly interested with regard to the definition of professional misconduct." Whatever may be reasonably regarded as disgraceful or dishonourable by professional men of good repute and competency, is infamous conduct" in the technical sense As the standard of professional competency becomes higher, as the conscience of men of good repute becomes ethically more exacting, so the area within which the Council can exercise its discipline will expand And thus practices which, forty or fifty years ago, were common and lightly regarded or excited little notice and reprehension are now repugnant to the general sense of the profession I may take two instances to illustrate my point

Formerly in certain parts of Great Britain, it was customary for a qualified man in large general practice to employ a number of unqualified assistants These, as they acquired a certain amount of rule-of-thumb experience were gradually entrusted more and more with the sole care of the patients The practitioner sometimes did not see the patient until it was time to sign a death certificate in order to avert an inquest Individual cases of gross abuse were one by one brought before the General Medical Council and condemned Others in which various forms of evasion were attempted, followed upon these, and as they arose these ingenuities were severally met and dealt with At length it was made clear to those who clung to the evil tradition, that their practice was too dangerous to be profitable, and that the "unqualified assistants" must go Having accumulated a sufficient body of experience regarding the mischief which had to be eradicated, the General Medical Council summed up all in a 'warning notice" respecting the professional offence of "covering" The result was remarkable Unqualified assistants were dismissed wholesale, often no doubt at the cost of some hardship to individuals, but in the end for the good of the public and of the profession alike.

More recently the practice of issuing objectionable advertisements or of employing or sanctioning the employment of canvassers with the object of procuring patients was brought before the General Medical Council in connection with particular flagrant cases Each case had to be dealt with on its own merits or demerits The character of the objectionable advertisement

varied, in some cases the canvassing or touting was direct, in others it was carried on through the agency of a club or association, or dispensary When the time was ripe, and the various forms assumed by the mischief were fully apprehended, a 'warning notice" was issued pointing out the public detriment and professional discredit attaching to such unworthy methods of attracting practice The notice further stated that practitioners who employed them, or sanctioned their employment, were liable to the penalty of erasure from the Register

These examples—and I could add to their number, illustrate my statement that even with its apparently limited powers as a court, and notwithstanding the apparent inadequacy of the Statutes which govern it, the Council will in fact formulate, and by formulation make explicit fresh application of the law to the growing complexity of modern conditions And, what is more important, in doing so it is bound to carry with it the concensus and approval of "professional men of good repute and competency" The average conscience is quickened, and what was once tolerated will in the end be repudiated and discountenanced

I shall now offer a few remarks on the powers of the Bengal Council of Medical Registration regarding "Medical Education" In the Medical Acts the Council is styled "The General Council of Medical Education and Registration of the United Kingdom" but in the Bengal Medical Act it is called "The Bengal Council of Medical Registration" But although for some reason or other the word "Education" has been dropped the Council has, nevertheless, been given some, though limited, control over medical education (*vide* Sections 18 and 19) It may be seen that in this and in other matters the Council is in close administrative relation with, and controlled by the Local Government If in anything the Medical Council fails to do its duty the Local Government will perform it The seemingly meagre and inadequate positive powers of the Council with regard to the control of medical education are bound to develop an influence which will be real and potent Its powers only enable it to visit and inspect examinations and to call for information as to the courses of study it is not authorised to prescribe or to amend either It cannot itself disallow an "insufficient" curriculum or an "insufficient" test it can only report its opinion to the Local Government These are the limits imposed on its educational action by the terms of the Bengal Medical Act It may be mentioned that the Medical Acts do not confer on the General Medical Council more powers in this respect and at first sight they are narrow enough But in practice they will prove to be more efficient than they seem in theory, and the "long result of time" has gone far to make them adequate for the purpose This result has been reached in Great Britain, by a gradual process of evolution, and by the exercise of moral pressure and is bound to do so here in Bengal It is dependent in great measure on three factors —(1) the constitution of the Council itself, (2) the loyalty and conscientiousness of the teaching and examining bodies, and (3) the publicity of the Council's minutes and proceedings

Constitution of the Council—The Council consists of 15 members, 8 (including the President) being nominated by the Local Government and 7 being elected Of the latter 6 are elected by different constituencies of registered practitioners, and one by the Senate of the University of Calcutta The selected members must be, by law, medical practitioners, but the nominated members need not be so The Local Government may appoint laymen if they like

The duty and responsibility of appointing not *obedient delegates* but good *members* have been imposed on each of the constituencies Their credit rather than their narrower interest is involved in the selection they make For the influence wielded by any member of the Council within its walls ultimately depends on his character and capacity as a man among his brethren and not on the dignity or power of the body which sends him That influence is instantly weakened and discounted if he comes burdened with a mandate or hampered by a pledge He must be a voice and not merely an echo However important may be the essential independence of the members, considered as components of the Council, they should regard themselves as members of a "College of Justice" only and not as members representing this or that college or university or constituency "Clothed by the legislation with the duty of discipline," anything like fear or favour, partiality or ill-will, mandate or pledge becomes more than a defect—it amounts to a disqualification for judicial function

By bringing all the teaching and examining bodies together in the persons of their chosen members round the Council table an average standard will be worked up, which will be regarded by "men of good repute and competency" as reasonable and "sufficient," due regard being given to all the circumstances of the case It it be not as high as some might think attainable, it will be a good deal higher than what without our machinery would actually be attained

Suppose now that the Council has passed a resolution for the improvement in some particular of the requirements of a constituent institution The resolution does not go as an order from an autocratic bureau but goes from a Council in which the said institution had as much voice as any other The institution, if it is loyal and conscientious, ought to give it the most careful consideration and try to give effect to it, without derogating one whit from its proper dignity or sacrificing a jot of its rightful independence The institution acts on the impulse, not of servile submission, but of noble co-operation The influence of the Council with the various institutions (University, State Faculty, Colleges and Schools) will far exceed its real powers, and will largely be due to the potent motives which we deduce from the principle of representation The only compulsion would be the internal compulsion of a high self-respect which will make them unwilling to do less than their compeers for the common good I am confident that even this compulsion can be eased of all constraint by the fuller sympathy with the Council's motives and objects which the loyal mediation of its members will induce It is in these ways that the loyalty and conscientiousness of the teaching and examining bodies will facilitate the Council's task of maintaining the educational and examination standard of the profession

Publicity of the Council's minutes and reports—It is undoubtedly for the public advantage that reports and proceedings relating to the action of a responsible corporation in the exercise of its public functions, should have wide publication The procedure followed in the General Medical Council is as follows —When one of the examinations have been inspected, the Inspector's report, with the remarks of the body concerned, and the remarks of the Examination Committee on both, are presented to the Council, and when duly received, are printed in its public minutes The whole is discussed in the presence of the public and of the reporters of various journals, and the decision can thus be criticised with knowledge of its grounds The net result is certainly beneficial If a body is commended for some new and valuable feature in its methods, for an examination-experiment which has proved successful, the commendation is public, and the credit of the body is enhanced The other bodies have the opportunity of learning from the success of the pioneer body and of adopting the improvements themselves In this way a virtue is not only praised, it is propagated It is twice blessed it blesses the bodies that (thanks to their free initiative) were wise enough to discover or invent it it blesses also the bodies that offer it the sincere flattery of imitation

On the other hand, if a clear defect or insufficiency is revealed, the body concerned hears of it, the profession hears of it, the public hears of it The criticism it calls forth is echoed and re-echoed The forces called into play thus tend to eliminate the defect, or even to convert it into a redundancy of merit, before the

next inspection All these factors in co-operation have gradually brought about extremely satisfactory results in Great Britain

I shall now briefly allude to the British Medical Acts The Act with which we as graduates of the Calcutta University are concerned is the Medical Act of 1886, which was passed to amend the Medical Act of 1858 One of the objects of the 1886 Act was to lay down regulations as to the standard of qualifications for registration of colonial and foreign diplomas and degrees, enabling the possessors to practice in Great Britain Part II of this Act is therefore of considerable interest and importance to those men who find themselves obliged to study out of the United Kingdom and yet eventually wish to practice within it Pursuant to Section II of this Act the L M S or M B of the Calcutta University is registrable in the Colonial list of the British Register and will permit the possessor to register and obtain all the advantages of registration This may be considered as a "reciprocal favoured nation" clause for medical practice

In addition to the right to practice in the United Kingdom, registration in the British Register entitles graduates of Indian Universities to compete for the I M S examination and to prosecute post-graduate study in the British Isles These are unquestionably important advantages

Gentlemen I hope I have been able to explain to you the scope of the Bengal Medical Act I am aware that some of the medical graduates of the Calcutta University have refrained from registering themselves on the ground that medical registration does not offer any positive advantages in comparison with the disciplinary control to which they should subject themselves by being registered Evidently they are afraid of discipline I need hardly remind you that if a medical man conducts himself as he *ought to* as a member of the medical profession he need have no fear to be under discipline Unquestionably the general effect of the working of the Bengal Medical Act will be to raise the status of the medical profession in the eyes of the public for men of intelligence appreciate that discipline leads to efficiency and a high standard of conduct and assuredly the Act constitutes discipline of no mean order for all registered practitioners Medicine is not only a science but also an art and the successful practice of the medical profession will depend upon the proper exercise of common sense, discretion and powers of observation But above all always try to do your duty so that you may not lapse from the ethical ideal Let the motto of your life be "Do to others as you would they should do unto you."

ANNUAL REPORTS

ABSTRACT FROM THE ANNUAL REPORT ON THE WORKING OF THE VACCINE SECTION OF THE KING INSTITUTE OF PREVENTIVE MEDICINE, GUINDY, FOR THE YEAR 1920-21

The report is of interest from (1) general, (2) financial (3) scientific and (4) educational points of view

1 *General*—It appears that there had been considerable and frequent (rather vexatious) changes in the personnel of the subordinate staff and the Director strongly deprecates such a change without very special reasons This means a loss of efficiency and time in a department which needs men of considerable training and experience for satisfactory working

The total amount of vaccine supplied during the year under report amounts to 2,054,075 cases, this being 34,610 cases less than last year's total The decrease in the amount of vaccine issued is due, for the most part, to a fall in supply to the military department and to municipalities The cessation of recruitment, following the termination of the war, is undoubtedly responsible for the decreased supply to the military The case of the municipalities is, however, different. A study of the quinquennial figures shows that the supplies to these bodies have been steadily decreasing since 1917-18 They now amount to only two-thirds of the issues for that year The cause for this decrease is not apparent, for, although the influenza epidemic has on several occasions been made the scapegoat for similar shortcomings, it would not appear to have had any connection in this case for the figures for 1918-19, the year of the big epidemic, show little if any, decrease when compared with those of 1917-18

The Director believes that vaccination is losing ground as far as the municipalities are concerned and an enquiry into the underlying causes should be made. A more satisfactory feature however, of the year under review, is the rise in the demands from private individuals and institutions

2 *Financial*—The Director has introduced a different form of presenting financial statements and the following are his comments on it —

The gross cost of the working of the Vaccine Section for the year is Rs 59,989 5-4 This shows a decrease of Rs 3,008-13-8 over that of the previous year The net expenditure Rs 54,088-15-2 incurred for the manufacture of vaccine for Government purposes, is, however, somewhat higher than that of 1919-20 This apparent paradox is due to a net rise in the cost of calves, and to the introduction of a different system of purchase Formerly the calves were bought by the Institute for Rs 9 per calf, and resold to the contractors for Rs 2-2-0 giving a net expenditure of Rs 6-14-0 During the year under report a sum of Rs 7 has been paid for the use of each calf and no refund has been claimed on the removal of the calf after operation There has therefore, been a net rise of two annas per calf although the gross annual cost of the calves appears to be less than that of the previous year

The gross increase under this heading has been somewhat reduced by a diminution in the number of calves purchased during the year This decrease is due to improved methods of seeding which have had the effect of increasing the average yield of pulp per calf

In showing the profit side of the account it has previously been the custom to deduct the amount obtained from the sale of used calves, and also the gross earnings (including the cost of manufacture) realized from the sale of vaccine lymph to private individuals from the gross expenditure and thus obtain the net cost of the production for lymph issued to public bodies The average cost per case has thus been calculated and each Institution has been debited in proportion to the quantity of lymph supplied

This method while necessary for the allocation of the proportionate cost of the vaccine to the various bodies concerned does not give the actual rate per case of all the vaccine lymph manufactured in the Institute, for it excludes the expenses incurred in connexion with the quantity issued to private individuals It would appear to be more in keeping with a statement of accounts of the manufacturing department, such as the vaccine section really is, to know the average overall expense, for it is only by this means that the actual profit gained by sales can be calculated The average cost per case for all vaccine manufactured during the year was 5 538,219 pies, and the actual profits realized by the sale of 82,570 cases to private bodies was Rs 2,778-14-5 This profit has, as usual, been allowed in the calculation of the average cost per case to Government institutions and has the effect of lowering it to 5 267,589 pies Whether this concession should be permitted is, however, doubtful It would appear that a more accurate estimate of the current amount debitable to Public Bodies would be obtained if the average cost of all the vaccine manufactured at the Institute was taken as a basis for calculation.

It is of interest to note that, were the authorized charge of one anna per case enforced for all the vaccine issued from the Institute during the year, a sum of Rs 1,28,379-11-0 would have been realized, giving a profit from the sale of vaccine lymph alone of about Rs 69,000 after all the working expenses of the section had been deducted

It can safely be said, therefore, that the vaccine section has paid its way and is potentially a source of considerable profit to Government

3 *Scientific*—This section has been very ably dealt with and charts and graphs are appended In all 2,054 075 cases of vaccine were issued but returns were received of only 1,129,298 vaccinations and no information of the remaining 924,777 As an attempt to obtain a part at least of this latter the Director remarks that there should be no difficulty in obtaining results from the Jails and military department and suggests that forms upon which results can be tabulated, should be sent out with every case of vaccine issued In this way returns from private bodies and individuals might be received

The usual lanolinated vaccine was issued throughout the year with the exception of the two months, July and August, when an attempt was made (as a result of the recommendations made in the report forwarded by Major Cunningham) to manufacture and issue chloroformed glycerine lymph to the whole Presidency The result was most unfortunate, for the success rate for these two months dropped to 35 13 per cent This has had a considerable effect on the year's results and has lowered the overall success rate (which for lanoline lymph alone was 66 14 per cent) to 60 86 per cent The causes for the failure of the chloroformed glycerine lymph are not far to seek The lymph was prepared during June, July and August—the worst months of the year for such a purpose, for the virus rapidly dies out under adverse conditions of temperature making successful manufacture almost an impossibility Added to this was the unfamiliarity of the staff with the more complicated process required to produce a lymph by this method The setback while regrettable, has been the means of imparting some valuable lessons In the first place considerable caution must be exercised in applying the results of experimentation to large scale manufacture Experience has repeatedly shown that the difficulties encountered in the process of increasing output are altogether out of proportion to the amount of extra vaccine produced The present case has been no exception Further any change in the procedure must be gradually introduced new methods being substituted for old as the staff is found competent to deal with the new technique The poor results obtained during these two months must not be allowed to prejudice the case as far as chloroformed glycerine lymph is concerned The experience of other provinces is altogether in its favour, and experiments since carried out at this Institute have yielded far better results These experiments are as yet incomplete and the details are not published therefore

The monthly success rate curve shows the usual hot weather fall

The vaccine virus is extremely susceptible to increases or variations in temperature Exposure to 37°C for 24 hours (98 4°F or blood heat) is said to render lymph inert Such temperatures are experienced in many parts of this Presidency for considerable periods of the year This makes successful vaccination during the hotter months a matter of considerable difficulty The experience at the King Institute for many years has been that a successful vaccine lymph cannot be made during the hot weather Other Provinces who have to deal with similar conditions make it a matter of custom to suspend operations during the hotest months and to recommence them again when the weather becomes cooler While much of the want of success in vaccination is due to vaccine of uneven potency, a large measure is also due, the Director believes, to the want of skill in vaccination

A possible means of checking this conclusion is at present under consideration A careful study of the returns as they come in is at present made and in cases where persistently bad results are being obtained with a lymph which has been successful elsewhere, it is proposed to send one of the Deputy Inspectors of Vaccination attached to the Institute to the place in question Vaccine will be issued in the ordinary course and the vaccinator and the Deputy Inspector of Vaccination will each vaccinate an equal number of such cases as are brought before them

The verifications will be done in due course and the results forwarded to the Institute The advantage of a scheme of this sort should be that the Institute Deputy Inspector of Vaccination, being engaged in the actual manufacture of the lymph in question, would be interested in obtaining the best results possible, and would, therefore, give a true estimate of the value of the lymph The only disadvantage appears to be the length of time required for vaccination and subsequent verification Only a few visits could thus be paid by the Deputy Inspector of Vaccination in the course of the year It is proposed that the scheme should be tried tentatively in the first instance and if successful it might be developed later with advantage

Experimentation—Numerous experiments with various lymphs have been carried out throughout the year under report For facilities to carry on this part of the work the Institute is indebted to the Madras Corporation for their courtesy in permitting the Institute staff to test various types of lymph at the Corporation vaccination depôts By this means results of utmost importance have been obtained under ideal conditions, for the members of the Institute have been able to see with their own eyes the effects of the different types of lymph they have prepared Trials with lanoline, glycerinated and chloroformed glycerinated lymphs have been made and the results recorded personally by Rao Bahadur Dr M Kesava Pai While a sufficient number of experiments have not yet been completed under all conditions the conclusions up to the present are definitely in favour of the glycerinated type of lymph The results are in fact distinctly encouraging In a series of 300 cases carried out during the cold weather, a success rate of 99 0 per cent has been registered with an insertion success rate * of 93 1 per cent In the districts the results have also been encouraging, a success rate of 91 8 per cent with an insertion success rate of 77 per cent being registered The results with chloroformed glycerine lymph are not quite so good and point to the fact that there is still much to learn in the technique of the method Great care is required in this case for the continuation of the chloroforming process, for too long a period will render the lymph inert Once the technique is mastered, however, superior results should be forthcoming

All information at present available points to the fact that vaccination carried on in the cooler months of the year with fresh lymph should yield results which ought to compare favourably with those of other provinces The great obstacle which confronts the Madras Presidency is the length of the hot season With the present limited knowledge of the vaccine virus it seems almost impossible to expect good results over a considerable part of the year The problem, therefore, is to devise a means of manufacture and issue which will be unaffected by the excessive heat The solution if there is one, can only be the result of prolonged and careful experiment

4 *Educational*—A completely new scheme for the training of vaccinators has been introduced during the year under report For some time it had been thought that the vaccinators in the Presidency were wanting in skill The system of

* The insertion success rate is the percentage of the successful insertions

training was defective. The course attended by the first-class vaccinators contained too much theory and too little practice and vaccinators who had completed the course had not had sufficient opportunity of becoming thoroughly conversant with the practical operation of vaccination Such facilities could not be given at the King Institute A committee, of which the acting Director was a member, was appointed by the Surgeon-General with the Government of Madras to consider the question and formulate proposals As a result of their deliberation it was finally decided that much more prominence should be given to the practical side of the course, and that each candidate should be required to give evidence of his practical skill in vaccination by performing with his own hands not less than 50 operations at which he should obtain at least 80 per cent of the success rate obtained at the depôt at the time This part of the course was to be carried out, as far as the first-class vaccinators were concerned, at the vaccination depôts of the Madras Corporation and in the district of Chingleput and was to be under the control of the Deputy Sanitary Commissioner, Central Range, Madras A theoretical course of instruction, which was to precede the practical part of the work, was to take place at the King Institute, but this course was only to last for a fortnight

Similar alterations, having as their basis a thorough grounding in practical vaccination, were recommended and approved for the courses of instruction attended by second-class vaccinators The first vaccination class under the new scheme was held during March of the present year, and it is felt that a considerable improvement in the practical knowledge of future vaccinators with a consequent improvement in the vaccination returns of the Presidency must be the result of these innovations

Twenty-three students attended and obtained qualifying marks at the examinations held at the end of the course.

ANNUAL PUBLIC HEALTH REPORT ASSAM, 1921

The following extract from the Government Resolution on the Annual Public Health Report of the province of Assam for the year 1921 gives all the important features and is therefore quoted *in extenso* —

During the year 1921 climatic conditions were for the most part normal The provincial birth-rate was 33.57 per mille, compared with 31.53 in the preceding year and with an average of 31 78 during the past five years The death-rate of the province was 26 48 per mille, the corresponding figures for 1920 and the preceding *quinquennium* being 29 99 and 36 17 The district mortality during the year under review was lower than that of the previous year in all districts except Cachar, where cholera and fever were responsible for an increase. Compared with the rate for the previous five years, there was a marked fall in all districts But all these figures are to be read with the reserve due to the general inaccuracy of the provincial vital statistics

2 In tea gardens the birth-rate during the year was 25 65 and the death-rate 25.80 per mille. The corresponding figures for 1920 were 25.89 and 31 54 These figures suggest that tea gardens are making slow progress toward normal conditions of health.

3 Deaths from all the principal diseases were fewer than the annual average of the preceding decennium There was no acute epidemic of influenza and the mortality from fever in general came down to about the normal of the pre-influenzal period. *In Shillong*, where outbreaks of diphtheria have been frequent, arrangements are being made to deal with them by such modern methods as the detection and immunisation of susceptible children The mortality from cholera was heavy in Goalpara, where the deaths reported were nearly double the decennial average of the district. The predisposing cause was undoubtedly the floods which occurred during the year and brought about a scarcity of foodstuffs with attendant privation

4 Dysentery and diarrhœa continue to levy a heavy toll from the tea gardens, the average death-rate on the gardens being 5 25 per mille compared with the provincial death-rate of 1 68 A fairer comparison however is that with the death-rate in the preceding year in the same areas and this shows perceptible improvement At the same time there is no doubt that much of the sickness and mortality on the gardens is due to causes which would be preventible, if money were forthcoming for the initial expenditure involved in such special sanitary measures as the systematic disposal of refuse and adequate conservancy arrangements Conditions differ on the various gardens, and probably no one system will be found suitable to them all It may be expected that the Committee which is at present inquiring into the conditions of labour on the gardens will have suggestions to make The Government know that many managers are alive to the need for improvement, and believe that but for the recent depression more would already have been done. They hope that with the revival of the industry, this important matter will receive the attention it deserves, and they are convinced that money so laid out will prove to be very well invested

5 The results of the measures taken against malaria under the supervision of the Public Health Department were satisfactory In Lumding the number of attacks of malaria per head per annum has been almost halved Similarly favourable results are reported from Pasighât A detailed account of these operations has just been received from the Director, and will be published separately in the belief that it will be of interest both to scientific readers and the general public. Anti-malarial observations have also been conducted on the sugar estate in Kamrup, and Lieutenant-Colonel S R. Christophers, CIE IMS of the Central Research Institute, Kasauli arranged to visit the place at the end of the year and give expert advice

6 Small-pox was epidemic in the Darrang district, though it was confined to certain mauzas in the Mangaldai sub-division where vaccination had been neglected Deaths from this disease at Golaghat were also high and this is attributed to laxity in the working of the compulsory Vaccination Act.

7 The main interest of the report lies in its account of the operations against *kala-azar*, which scourge has, ever since the great recrudescence in the year 1919-20, absorbed the main energies of the Public Health Department in the province. Fortunately the spread of the disease two years ago synchronised with the discovery of effective treatment for it. The efforts of the Department have since been directed mainly to perfecting the organisation for discovering cases and bringing them under treatment The great value of segregation and migration from infected areas has for some time been known, but additional evidence of it is afforded by the Director of Public Health's account of what occurred in the North Cachar Hills The hillmen usually turn patients out of the village, and burn the infected houses, and thereby compel them to move on to new sites Eviction causes patients to seek admission to hospitals and the removal from the infected site results in the cured patients returning to an uninfected house. By this means the outbreak appears to have been almost extinguished Unfortunately, as the Director observes, "the plainsman does not or cannot shift his house with the same facility", and the compulsory removal of people from infected areas is limited, if by no other cause, by the funds available for the purpose.

The actual number of cases of mortality from the disease in 1921 is rather higher than in 1920, mainly owing to an increase in the Nowgong district. How much higher the mortality would have risen but for the expansion of the efforts made to deal with the disease, it is of course impossible to say Facilities for treatment are now provided in practically every area where

they are required Civil Surgeons were placed more directly in charge of the operations in their districts during the year, and the policy of encouraging provision for treatment in Local Board dispensaries has also been pursued The Government are glad to have evidence of the co-operation between medical and sanitary officers, and also of the recognition by the people of the efforts made to help them It is a significant fact that all the political agitation in the province left the operations of the *kala-azar* staff undisturbed

8 By the end of the year accommodation for nearly 400 in-door patients had been provided and nearly 16,000 patients had received treatment in them If this number falls somewhat short of the hopes expressed in last year's report it still affords evidence of remarkable expansion of effort, and it may be hoped that the recent issue of apparatus for a new blood test, known as the "*formol-gel*" reaction, designed to facilitate the differentiation of true *kala-azar* cases from those of chronic malaria, will do much to make treatment easier It must be matter for regret that a fairly large number of patients are reported to have abandoned treatment prematurely, such cases could be dealt with compulsorily under the regulations, but the Government desire that these should be used sparingly and only where special urgency exists It is certain that the treatment is gaining in popularity according to the results achieved, and also to the persuasive efforts of the sanitary and district staffs The Government would have been glad had their finances admitted of an even more active policy, but they feel that there is ground for satisfaction with the organised efforts made and the measure of success attained Whether the Director's anticipation that the worst part of the problem has been surmounted, and that fewer new cases may in future be forthcoming, proves right or not, the Government heartily agree with him that public expenditure could hardly be directed to a better end

The Government of Assam cannot feel the same satisfaction with the present provision for the investigation of the disease There is obviously a rich field for research at hand, and the problem of prevention will not be satisfactorily solved till much more is accurately known about the carriage of the disease The matter is one of vital interest to the population in this province, and the Government doubt whether existing arrangements for research are either complete or sufficiently coordinated The Director will be asked to consider how they can be improved

9 The Government are glad to notice the steady increase of expenditure upon conservancy The only large sanitary scheme under construction in the province, *viz*, the Dhubri water-works, was completed during the year In the Lushai Hills the catchment area of the main reservoir of the water-works at Aijal was extended, and work on the improvement of the water-supply at Lungleh is also in progress Substantial grants were given by Government to Local Boards in aid of the scheme for the improvement of the water-supplies in rural areas As a exception, however to the general effort to improve sanitation in town areas, the Director reports that a prominent municipality has reverted to inefficient methods of disposal of refuse The Commissioner will be asked to go into this question

10 A Sanitary Inspector (now called Health Officer) has been posted to each of the Municipalities of Habiganj, Sunamganj, Karimganj and Sibsagar during the year, and four such officers have also been posted to Gauhati, Dibrugarh, Sylhet and Habiganj Local Boards for the furtherance of public health measures under the jurisdiction of the Boards Eventually it may be possible to provide every Local Board with the services of a trained health officer, through whose advise and instrumentality the Board may be enabled to work out its own programme for the promotion of public health An expenditure of Rs 20,000 was incurred during the year on pay and allowances of the Urban and Rural Health Officers lent to Local Bodies

QUINQUENNIAL REPORT OF THE CENTRAL KHALSA HOSPITAL, TARN TARAN, PUNJAB, 1916-20

This institution was opened in 1915 its general aims being the provision of medical and surgical relief in a centre in the Punjab to which many pilgrims come, the training of pupils, and the education of the public in public health In connection with the latter function lantern lectures are given, daily lessons are given to outpatients, and a monthly medical journal is published in Punjabi During the first five years no less than Rs 26,917 out of a total expenditure of Rs 30,594 was collected from the public by way of donations and subscriptions a very creditable performance The average number of annual outdoor patients ranged from 7,637 to 9,814 of indoor patients from 203 to 321 and of 2,735 major and minor operations carried out in the five years 705 were for cataract. The hospital is in debt to an amount of Rs 3,831 and an appeal is made for support, especially for the support of pilgrims more well-to do than their neighbours

Reviews.

THE PRACTICE OF MEDICINE IN THE TROPICS—By MANY AUTHORITIES Edited by W Byam, O B E, and R G Archibald, D S O Oxford Medical Publications Henry Frowde and Hodder & Stoughton London In three volumes £9 9*s* Volume II 1922 852 pp

THE publication of "Byam and Archibald" marks the end of one phase of the practice of medicine in the tropics and the beginning of another The War has awakened everyone to the importance of tropical diseases "Manson" and "Castellani and Chalmers" have been rewritten and brought up-to-date

"The Practice of Medicine in the Tropics," however marks clearly the beginning of a period in which tropical medicine is coming into its own, when its great importance is recognised in all countries with tropical possessions, when a single book by one or two authors is insufficient, and when such splendid volumes as these, lavishly and beautifully illustrated, written section by section by the leading authorities in each subject, every page and paragraph a statement of authoritative opinion, supply the practitioner in the tropics with a set of volumes which compares with and is analagous to Osler and McCrae's well-known "System of Medicine"

Volume II comprises 852 pages, and no expense has been spared in reproduction and general get-up The coloured plates are the very best that anyone could desire Temperature charts, systematic tables and text illustrations abound The three sections covered in this volume are Bacterial diseases, Spirochætal diseases, and Protozoal diseases The volume opens with two chapters on acute diseases in the tropics and the differential diagnosis of chronic conditions by Major Byam In these the tropical practitioner is taken through the examinations which should be carried out, the clinical and laboratory tests necessary for diagnosis, etc Given a patient with fever we may have to look for

rashes, examine the mouth and throat, the state of the lungs, the heart, the abdomen, the genito-urinary tract, and the joints—any one of which examinations may throw sudden light upon the case Fever of gradual onset fever of sudden onset, hyperpyrexia, fever with pain, and fever without pain fever with jaundice, a rapid or a slow pulse,—in all such groups occur tropical fevers Enlargement of the lymphatic glands may afford useful information or even a diagnosis Enlargements of the spleen in the tropics are fully discussed,—a most important section Enlargements of the liver are dealt with and include two useful diagrams shewing the safe areas for liver puncture and the vascular supply of the two lobes Appendix II here deals with the whole technique of blood-cultures in tropical diseases, and Appendix III with diphtheria in the tropics The account of differential diagnosis of chronic conditions is excellent and includes accounts of Einhorn's string test for gastric and duodenal ulcers, the charcoal test for intestinal stasis and a full account of biochemical tests on the stools urine and blood

Section VIII on bacterial diseases opens with an introduction by Dr Carl Browning This chapter alone constitutes an admirable summary of our present knowledge of the relation of bacteria to disease, modes of spread and production of effects by bacteria, carrier states, immunity and serological reactions in bacterial diseases The enteric fevers are dealt with by Colonel D Harvey, R A M C, and Lieutenant-Colonel Tull Walsh, I M S (retd) *Para C, and B fæcalis alkaligenes* infections are dealt with The full-page coloured plates of diseased intestines, both here and in the sections on the dysenteries are unrivalled The Widal reaction in inoculated and non-inoculated is carefully weighed, and its values assessed Undulant fever is dealt with by Sir P W Bassett-Smith and is therefore a chapter, every word of which is based on the experience of the leading authority on this disease Dr Victor G Heiser writes on bubonic plague, and the article is a clear, concise and straightforward account The recent work of Major F W Cragg, I M S, on the importance of the seasonal and geographical distribution of the different fleas on rats in India is presumably too recent to have been included, but should be noted in a next edition Cerebro-spinal fever is by Dr Alison Glover and Dr E G D Murray and summarises the whole of the recent war work on this important disease, going fully into etiology and prophylaxis, the para-meningococcal strains, the examination for carriers, the differentiation from such other diseases as *encephalitis lethargica* and treatment of cases and carriers Sir Walter Buchanan, I M S (retd), adds an account of C S fever with special reference to the disease as seen in the jails of India *Cholera Asiatica* is by Sir Leonard Rogers, and consists of 20 pages, summarising his great experience and the treatment adopted and results obtained at the Calcutta Medical College, from 1895-1905 with a case mortality of 59 per cent to 1915-17 with a case mortality of only 19 per cent Chapter 50 on Bacillary Dysentery, by Dr Manson-Bahr, Major M Perry, R A M C, and the late Sir Patrick Manson, is perhaps the very finest section in the whole volume It is beautifully illustrated, the coloured plates of the microscopic appearances of the stools, gut sections and especially Plate XLIV showing the appearance of the colon in a Shiga infection which proved fatal in 56 hours, being excellently executed The discussion of the dysentery bacterial strains is thorough, and Andrewes and Inman's works on the antigenic components of the mannite-fermenting strains is given Morbid anatomy histology, symptomatology, sequelæ and treatment are fully dealt with, whilst rapid methods of establishing a laboratory diagnosis, the use of Garrow's agglutinometer, and the identification of carriers are given Diet tables and the administration of polyvalent serum,—dose 60 to 80 c c are detailed

Chapter 51 is on Leprosy by Dr George W McCoy of Washington, and pays special attention to modes of dissemination and both old and new chaulmoogra oil treatments Colonel G E Bushnell contributes a most valuable chapter on Tuberculosis in the Tropics He emphasises the value in the tropics of the Von Pirquet test and the Hamburger "depôt and stich" reactions

Passing to spirochætal diseases, Infectious Jaundice is dealt with by Dr Noguchi, and beautiful microphotographs of *L. icterohæmorrhagica* are included Dr H R Carter, Assistant Surgeon-General, U S A Public Health Service, writes on Yellow Fever Here modern work is well summarised, especially such questions as the etiological relationship of *L. icteroides* to the disease, the critical number of Stegomyia necessary for permanent endemicity, and the mode of spontaneous elimination of Yellow Fever Dr J L Todd of the Liverpool School of Tropical Medicine and now of the McGill University deals with the relapsing fevers The debatable question of granule shedding by spirochætes is wisely dealt with some reserve Vectors, prophylaxis, symptomatology and treatment are fully dealt with Temperature charts are numerous and useful Syphilis in the tropics is dealt with by Dr W Fletcher The importance of the itinerant barber in causing extra-genital chancres is noted The use of the dark ground apparatus is fully given, the best methods of collecting blood and C S fluid for the Wassermann test are detailed, and a discussion ensues on the value of positive and negative findings Treatment is very fully dealt with, standard courses are given in tabular form and after effects with the arsenobenzol preparations described Framboesia is dealt with by Dr Castellani and the late Dr A J Chalmers, and this chapter is full and authoritative. Dr A [illegible] writes bronchial

spirochætosis and Dr C C Bass on rat-bite disease

The section on protozoal diseases begins with an introduction by Professor Clifford Dobell Here in six short pages is an admirable essay on true and false parasitism It is a pity that this section appears to suffer from compression Professor Dobell is so outstanding an authority that to cut him down is deplorable His definition of the protozoa as "non-cellular animals" hits the mark exactly, and unlike the old definition of them as unicellular animals, emphasizes their equal importance with the Metazoa Chapter 62 on Amœbiasis by Professor Dobell and Dr G C Low is the last word in authoritative writing, profuseness of illustration, and clearness of expression The authors do not consider that emetine infallibly cures *E histolytica* infections, and wisely comment on the caution with which long courses of emetine treatment should be undertaken Chaparro, Simaruba and other indigenous remedies are described Of special value are the pages dealing with post-amœbic complications and the proof (or, more usually want of proof) of radical cure In an appendix of 8 pages Professor Dobell summarises his well-known "Amœbæ living in Man"

The Trypanosomiases are dealt with by Dr Blacklock and Dr Warrington Yorke, both well-known for their many years of work on these diseases The whole account is clear and authoritative, but is the general concensus of informed opinion in agreement with these authors that *T rhodesiense* and *T brucei* are identical? They dismiss Taute's well-known large-scale experimental inoculation of man with animal trypanosomes and its negative results with the remark that this shews how resistant man is to *T rhodesiense* infection Also "205" will require mention in a new edition, should it stand the test of time 'Chagas' disease and animal trypanosomiasis are clearly dealt with

Turning to the Leishmaniases, this chapter is by Dr R G Archibald Whilst it contains a useful and beautifully illustrated account of *kala-azar* it is rather brief Everything essential however is mentioned, but the article seems—as does much of the volume—to suffer from want of space *Cutaneous leishmaniasis* is illustrated by two full page coloured plates Due space is given to American leishmaniasis and a useful section on canine leishmaniasis follows

Chapters 65 on the intestinal flagellates of man, 66 on human coccidiosis, are by Professor Dobell and 77 on balantidiosis by Dobell and Dr G C Low, and are illustrated by three clear and useful plates We may here, perhaps, take the opportunity to proffer a request to Professor Dobell The plates in his well-known works on the human entamœbæ and the intestinal protozoa are the very finest in the literature But few of them are from unstained specimens, whilst few laboratory workers can hope to obtain equally good stained films Dobell's account of the actual appearances of motile *E histolytica* as seen in a slightly stale stool is of extreme value to the laboratory worker, in fact it is the only correct account of the organism as one usually sees it in actual laboratory work But will he, in future editions give more detail of the movements and the appearances of the intestinal flagellates as seen in fresh preparations? His account of the phases of degeneration of *Trichomonas hominis* is again valuable, but the ordinary student is more likely to be enabled to identify *Chilomastix mesnili* in its motile state in stool examination by its bumpy movement,—"like that of a barge tied up to a pier head"—than by its structural detail when stained

170 pages in this volume are devoted to malaria This portion constitutes a symposium by a galaxy of experts, Lt-Cols S P James and S R Christophers, Drs J D Thomson, H M Woodcock, and Allan C Parsons An introductory chapter on geographical distribution and general etiology,—in which factors relating to the source of infection, the carrier of infection, the recipient of infection, the environment, and the connecting links in the etiological chain are all clearly dealt with,—is followed by 30 profusely illustrated pages on the malarial parasites We are glad that the authors admit only three and not five malarial parasites We note that *Plasmodium falciparum* must in future be called *Laverania malariæ*, the evidence being sufficient to classify the M T parasite as a separate genus The authors are rightly conservative with regard to *Plasmodium tenue* the writer has a slide in which it would be almost impossible to tell which infection was present and where the diagnosis would undoubtedly be *P tenue*, were it not for the fact that "crescents" are present in considerable numbers The writing in this section is very full and very much up-to-date, such matters as the possibility of extracellular forms, the exact method of maturation of gametocytes, the parasite forms met with in relapse, and methods of culture being dealt with In dealing with epidemiology, Colonel Christophers expounds very clearly the reasons underlying the difference between endemic malaria with a low mortality, and the terrible epidemic M T malaria, such as the Punjab epidemic of 1908 with very heavy mortality The instructions for malarial surveys are clear and concise Colonel James' chapters on the pathology and symptomatology of malaria are splendid, and here great value is added to the book by actual cases, temperature charts, blood counts, etc Atypical malaria, malarial neuroses, paludosis, complications and sequelæ are very fully and clearly dealt with Malaria in children receives special attention The chapter on treatment includes a discussion of the cinchona alkaloids other than quinine, and contains a guarded reference to quinidine Accessory lines of treatment are fully set out

Volume II of "Byam" is a book which will assuredly soon be in every medical library in the tropics It is complete, authoritative, profusely illustrated and contains the latest and best teaching by the most prominent and authoritative workers R K

PSYCHOLOGY CLASSICS VOLUME I THE EMOTIONS —By CARL GEORGE LANGE AND WILLIAM JAMES Williams and Wilkins Co Baltimore 1922 4 dollars 135 pp

THIS well-got-up and well-edited volume contains a reprint of William James' article on "What is an Emotion?" in *Mind* for 1884, chapter 25 on "The Emotions" from his "Principles of Psychology" and a new translation of Lange's *"Ueber Gemüthsbewegungen,"* The organic theory of the emotions, which to-day forms so important a basis of modern psychology and psycho-therapy, we owe primarily to Darwin's splendid book "The Expression of the Emotions" 1872 Lange in Denmark, William James in America, and Alexander Sutherland in Australia, basing their work alike but independently on Darwin's, were the three pioneers of the theory The greatest of them undoubtedly was William James, whose charm of style, and lucidity of expression make everything which he ever wrote delightful reading

Put baldly the 'James-Lange Theory" of the emotions is that an emotion consists in its bodily expression In the pre-Darwin days psychologists classified the innumerable grades of emotions, just as systematic botanists classify plants, they speculated on the cerebral centres concerned, but their labours were barren of result Leaving aside for the moment the finer and more æsthetic emotions, and dealing only with the more primitive ones such as sorrow joy, fright, anger, and rage, Lange gives a detailed and interesting account of the bodily and especially vaso-motor changes which accompany the expression of these emotions Take away all such bodily expressions of the emotion, claim both authorities, and there is no mind stuff left to give rise to any emotion at all 'What kind of an emotion of fear would be left, if the feeling neither of quickened heart-beats nor of shallow breathing, neither of trembling lips nor of weakened limbs, neither of goose-flesh nor of visceral stirrings were present, it is quite impossible to think" Think of rage without its accompanying symptoms, and there is no rage Count ten before getting angry and there is no anger

The man in the street will say, "I met a bear on the road I was frightened I ran away" But this, claims James, is in reality the wrong sequence, the true sequence is "I met a bear on the road I ran away I was frightened" It was the start on suddenly and unexpectedly meeting the bear, the instinctive flight and its concomitant muscular, vaso-motor and cerebral activities that constituted the emotion of fright "The bodily changes follow directly the perception of the exciting fact, and our feeling of these changes as they occur *is* the emotion"

Stated thus baldly the theory at once seems untrue Yet it is the only one which affords a physiological basis for and explanation of the emotions If the reader will but arrest his attention during the course of any emotion he will suddenly discover that his whole cubic capacity is alive, that sensory impressions, muscular movements, visceral stimuli are all occurring as part and parcel of the emotion Without them, claims James, there would be no emotion at all In other words there are no special cerebral centres for the emotions, the sensational associational and motor centres are all that are required

The difficulty of the James-Lange theory is the difficulty of testing it Yet such a study is possible in certain directions Emotions are often awakened by memories—a fact which would seem to negative the hypothesis Yet in memory the association-paths are already marked and well trodden, and even when it appears that the emotion has been of purely ideational origin, yet there is always some external stimulus which has released the mechanism Show a baby a teaspoon for the first time, he will crow with delight and grab at it But should the visual impression of a teaspoon be associated in his mind with previous administrations of a horrid medicine, the visual stimulus of a teaspoon will awaken different emotions His face will pucker up, his mouth will open, he will yell, he will 'express" lively dissatisfaction A different mechanism has been released by the same stimulus

The best proof that the immediate cause of emotion is a physical effect on the nerves is furnished by those pathological cases in which the emotion is objectless In every asylum we meet with such cases cases of absolutely unmotived fear, anger, melancholy or conceit Most physicians have seen cases of dyspepsia in which the patient suffers from attacks of meaningless terror The patient at first is conscious of vague discomfort, he becomes conscious that his heart is beating violently, he trembles, he passes into a condition of absolute terror in which he is simply afraid, knows that he is afraid of nothing, has a clear mind, but is passing through a severe and distressing emotion, caused by and due to afferent stimuli from the viscera A man may faint with horror at his first sight of blood, here the emotion is purely objective in origin

Turning next to a further proof, voluntary arousal of the expressions of an emotion is fully capable of arousing the emotion itself Sorrow and anger "work themselves up" "Smooth the brow, brighten the eye, contract the dorsal rather than the ventral aspect of the frame, speak in a major key, pass the genial compliment and your heart must be frigid indeed if it do not gradually thaw" Actresses consider that playing with the head is far less fatiguing than playing with the heart a cold blooded villainess is an

easier part than that of a sympathetic heroine Coleman related that he could never play "Othello" without becoming physically exhausted Mimicry of the emotions aroused the actual emotions so vividly that they left him prostrate And the audience can always tell the actor who is not in his part, the man, whose mimicry of the emotions has failed to arouse them

Granting the James-Lange theory, the emotions are most easily studied in young children and in pathological mental states where there is no repression Drug addicts also shew strong emotions, the Chinaman after his fourth pipe of opium beams and chuckles at all the world, he is as happy and irresponsible as a child

With adolescence and training, however, the higher, repressive centres come into play, and the emotions are controlled Here however they have always a physiological and bodily basis "rapture, love, ambition, indignation and pride are fruits of the same soil as the grossest bodily sensations of pleasure and of pain" And the study of any person in an emotional state will hardly ever fail to show that there are present more or less definite bodily expressions of the emotion

Even with the finer and more æsthetic emotions there is the physical basis A picture may appeal to us as beautiful, but we cannot look at it without some betrayal of our pleasure Study the faces of the audience at the performance of some great symphony, everywhere there is evidence of the expression of the emotions aroused

Yet repression may be carried to excessive and often unnatural limits Bernard Shaw remarks somewhere that no man can become an expert in his own profession without becoming sceptical about it *Rien ne me choque* is said to have been Chopin's superlative of praise of new music It is only the learned judge who can listen unmoved to the lies of witnesses and to the declamations of learned counsel We can perhaps ultimately do away with all expression of any emotion, but if we do so, we do away with the emotion itself; we are left only with the pure idea It was Kant—and it could not possibly have been anyone else—who defined the affections as diseases of the mind Such a state of "pure reason" may be the ideal, but it will hardly afford us "a happy issue out of all afflictions"

R K

DRUG SMUGGLING AND TAKING IN INDIA AND BURMA—By ROY K ANDERSON, F R S A Thacker, Spink and Co, Calcutta Rs 4 Pp 104

THIS is a most interesting little book It is very fully illustrated and it breathes of atmosphere, of chopsticks and fowl chow, of nights in Chinatown, of the temple of Heaven and of the sons of Belial,—the latter being the respectable, soi-disant and easy-going merchants who, under the cloak of general merchandise, make fortunes by smuggling The author details the *modus operandi* of the big smuggler, the man who never has an ounce of opium or a grain of cocaine on his premises, but who is the head of a big and underground organisation for their distribution The law can only take action against persons who are found to be in actual possession of forbidden drugs, hence the big operator usually escapes its clutches, whilst going to jail for being in possession of such drugs is all part and parcel of his subordinates' duties Of smuggling and smugglers, of bribery and corruption, of informers and information here is much delightful writing The innocent pile of planks containing a space packed with one ounce packets of cocaine, and the *gurrah* with a false bottom filled with opium are but two of many ingenious contrivances described Even the Chinaman's pith hat is not above suspicion

The author describes the methods of taking opium, morphia, cocaine and hemp The history of opium legislation in India is given Of opium taking and smoking the author writes moderately The general medical opinion will be with him The Assamese, for instance, after a heavy day's work in wet fields frequently take a small dose of opium at night, and seem the better for it Either for the relief of pain, or, more often, as a pleasant stimulus after a day of exertion and fatigue the coolie takes to opium-eating or the Chinese *mustri* to opium-smoking In strict moderation it seems to do him very little harm But later there may be aroused the "need for opium to alleviate the pangs caused by opium" and the habit, once ingrained is almost impossible to cure We wonder who is the author of the delightful "Opium Eater's Soliloquy"?—

'They began by mourning over my degraded moral state,
Then my physical decadence they would anxiously debate
Then they raised a pious eye,
And they heaved a pitying sigh,
And they shuddered as they pondered on my melancholy fate

If I'd only cultivated now a taste for beer or gin,
Or had learnt at Bridge or Baccarat my neighbours' coin to win,
I could roam abroad o'nights,
And indulge in these delights,
And my soul would not be stigmatised as being steeped in sin!

But as mine's a heathen weakness for a creature-comfort, far
Less pernicious than their alcohol, more clean than their cigar,
They have sent their howlings forth,
From their platform in the North,
And 'twixt me and my poor pleasures have imposed a righteous bar"

Morphia injection the author rightly condemns utterly It ruins the victim body and soul The syringe used is a curiosity, its barrel a bit of glass tubing, the plunger a bit of knitting needle wrapped round with filthy rag, and joints consisting of sealing-wax The victims are covered with scars and abscesses from these ultra-septic injections The only alleviating feature of this pernicious traffic is that by the time the morphia reaches the victim it has been so largely adulterated with starch that he is often unable to buy as much as he would like

Cocaine-taking also the vice of the idle rich in Western countries but the vice of the poverty stricken in the East, is entirely pernicious Here in India and Burma at least, sheer poverty is an important contributory cause The beggar who has only a few pice cannot buy a square meal But for the few pice he can obtain enough cocaine to satisfy his cravings, to abolish hunger, to become warm, to become a man

The author's quotation from a Persian allegory on the effects of drugs is admirable "Three men, one under the effects of alcohol, one under opium and the third under the effects of hemp, arrived one night at the closed gates of a city 'Let us break down the gates' said the alcohol drinker in a rage, 'I can do it with my sword' 'Nay,' said the opium eater 'We can rest here in comfort till the morning, when the gates will be opened' 'Why all this foolish talk?' whined the one under the effects of hemp 'Let us creep through the key-hole We can make ourselves small enough'"

"Drug Smuggling and Taking in India and Burma" is a book which will be read with interest by both the lay and medical public, as well as by the toxicologist and the medico-legal "expert"

R K

IRRIGATION IN CATARACT EXTRACTION—By E A R NEWMAN Price Rs 4/8 Publishers, Thacker, Spink & Co, Calcutta

THIS little book by Lt-Col Newman late Civil Surgeon of Dacca, commences by giving a very good review of the arguments for and against irrigation of the anterior chamber as a routine measure in cataract extraction, describes its difficulties and dangers, and an apparatus devised by him, which obviates some of them This occupies only the introductory chapter, 17 pages of the book, the rest of the book, about 100 pages, describes in a detailed way the cataract operation done by him, the instruments employed and their sterilisation, the preparation of the patient, the actual steps of the operation, and in this, the all-important question of the section and how to make it are well dealt with The author advocates capsulotomy with the knife, and a primary iridectomy, *c g*, before the expulsion of the lens, and a very complete irrigation, but recognises the advantage and occasional necessity of an iridectomy after the lens is out

Post-operative treatment, and the accidents of the operation, are dealt with briefly, but in a useful way

This book representing the routine of a very experienced operator will be found most useful by all beginners in eye-surgery, especially in the moffusil and can be strongly recommended for them more experienced surgeons will be interested in the author's treatment of debatable points One point however may especially be noted, an injection of hyoscine is recommended for nervous patients before operation this in the reviewer's experience while very helpful at the operation, has led to the most disastrous attacks of virtual mania in the wards afterwards, and should only be used in very exceptional cases

W V COPPINGER

RADIUM THERAPY—By FRANK EDWARD SIMPSON, A B M D ST LOUIS C V Mosby Company, 1922 Price $7 00

THIS is he most practical book we have yet read on radium therapy Its three hundred odd pages are packed with useful information There is very little padding The first eight chapters are devoted to the physics of radium and radioactive substances in general This portion of the work includes the technique of the preparation of radium emanation and the method of estimating its gamma ray activity

Two chapters are devoted to the biological effects of radium rays including their mode of action on malignant cells It is suggested that an intra-nuclear chemical change is produced The important question of stimulation of tumour growth by insufficient radiation is discussed and the author states that he has not been able to convince himself of an actual stimulation of tumour growth by radium rays from the clinical side

In chapter XIII a comparison is made between the deep dose produced by X-rays and that produced by gamma rays, but no details are given of the nature of the rays nor is any mention made of rays produced by Ehrlangen technique

The technique of radiation is fully dealt with in chapter XIV

The remaining chapters are devoted to the therapeutic applications of radium and are profusely illustrated The claims made are moderate and convincing This section should be read by every practising physician and surgeon

A notable feature of the book is the extensive bibliography covering practically everything of importance which has been written on the subject in the English, French and German languages

J A SHORTEN

RICKETS—By J LAWSON DICK, M D (Ed), F R C S (Eng), London William Heinemann (Medical Books), Ltd Price, 25/- net

THIS book is divided into two parts The earlier chapters of Part I are devoted to a

consideration of the geographical distribution of rickets Particular stress is laid on the fact that "Rickets is almost wholly confined to a comparatively narrow belt running across America and Europe—a zone which is the wealthiest in the world and into which all the richest and choicest products of the earth are poured in their natural state" The author evidently is no supporter of the vitamine theory and is at pains to disprove McCarrison's and Mellanby's views as to the association of vitaminic deficiency with this disease He quotes McCay's work on the diet of Bengalis in support of his contention that dietary deficiency is a minor factor in the production of the disease and gives the constant conditions necessary for its production as —(1) The breathing of a vitiated atmosphere in close and confined dwellings, (2) the exclusion of sun light, (3) the lack of opportunity of exercise, (4) damp climates and long winters in the colder northern hemispheres

The remainder of Part I deals with the early signs and symptoms of the disease and the various pathological changes produced A whole chapter is devoted to the teeth, which should be of great interest to the clinician as well as the dentist, as it deals with some of the more easily recognised outward and visible signs of the disease A chapter on the nervous system concludes this part Reference is made to the connection of rickets with convulsions, laryngismus stridulus, tetany and mental backwardness

Part II is concerned with the history of the disease, its ætiology and treatment, and the author's objections to the vitaminic theory are further elaborated The works of Mellanby, Noel Paton, Hess and Unger and others are quoted

Differences between the so-called experimental rickets and the human disease are referred to, and the opinion expressed that the former resembles osteo-malacia

The author indeed goes as far as to write "The vitamin theory is wholly inadequate as an explanation of the strong tendency which the young of all animals kept in captivity show to the development of spontaneous rickets"

In the ensuing chapters the ætiology of rickets is considered in relation to geographical distribution, historical evidence, vitiated air, absence of sunshine, etc

A whole chapter is devoted to the relation of rickets to endocrine deficiency especially the condition known as hypothyroidism

Only a few pages are devoted to prevention and treatment Stress is laid on remedying defective housing, developing of infant welfare centres, and open air teaching Diet and drugs are given a secondary place As regards the former a well balanced diet is recommended and variety insisted on No new drugs are exploited and the provision for a supposed vitaminic deficiency not considered

On the whole the book bears evidence of the weather-beaten convictions of the old school of physicians, and that conservatism which is always a bar to the advance of science There is not much new in it except vilification of the new On the other hand the author has collected in one volume an immense amount of historical, geographical and scientific knowledge of this very common condition, which alone should make the book worth reading and an adornment to the practitioners bookshelf

J A Shorten

Manual of Physio-therapeutics (New and revised edition) —By Thomas Davey Luke, M D, F R C S (Ed), London William Heinemann, Ltd 1922 Price 25|- net

This new edition of a well-known book has been thoroughly revised and brought up-to-date in accordance with the rapid advances made in this department of medicine during the Great War The book in its present form is divided into five sections, *viz*, thermotherapy, hydrotherapy, massotherapy (including medical gymnastics), the rest cure, electrotherapeutics, and dieto-therapy A new chapter has been added on the Bunce-Sutherland system of medical gymnastics, the various movements being illustrated by photographs, while some of the sections are not as complete as one would wish, the book gives a fairly wide survey of the various physical methods in use in the treatment of disease

The chapter on thermotherapy and phototherapy is particularly instructive Hot air, steam and Turkish baths, radiant heat and phototherapy are all scientifically dealt with

The Borgonie Chair and its medical uses are fully dealt with

The book is profusely illustrated throughout and promises to become a classic in its line

J A Shorten

A Text Book of Midwifery —By Kedarnath Das Published by Messrs Thacker, Spink & Co Price Rs 13|8

A glance at the already long list of text Books of Midwifery makes it difficult to discern any special reason for the production of another, but this is supplied by the author in his preface His aim is to limit the scope and compress the text of his "Handbook of Obstetrics," and he clearly defines the audience whom he thus intends to benefit—"the average student" Consequently the book is, as we would expect it to be, useful and practical rather than all-sufficient

He has succeeded in his aim, writing with clearness and the competence of sound knowledge, striking no strong individual note, but presenting conservative and practical views in a well-ordered sequence Illuminating the whole work is the penetrating influence of Professor Whitridge

Williams, to whom the author acknowledges his indebtedness and pays a grateful homage

The introductory chapters on anatomy and physiology are not exhaustive, but here the pruning might have been more judicious In describing the origin and development of the placenta, mention of the time of its formation should have been included, while "Abderhalden's test" in the diagnosis of pregnancy might have been altogether omitted

The chapters on the mechanism of labour are well and clearly written The section dealing with the "Toxæmias of Pregnancy" is less happy In treating Hyperemesis Gravidarum few will concur with his summary judgment "In the toxæmic variety as soon as the diagnosis is made abortion should be induced," and no mention even is made of the value of combining glucose with sodium bicarbonate in the early treatment Again in dealing with albuminuria in pregnancy he misses the opportunity of discussing generally the relationship of renal inadequacy and pregnancy, and his artificial division of this toxæmia into nephritic, pre-eclamptic and eclamptic varieties might leave the student to regard these as separate and distinct entities

We commend the author's use of the metric system, and his care to give the average pelvic measurements for Bengali as well as European women should prove distinctly helpful to the Bengali student

The best chapter of the book is the last dealing with obstetric surgery The author has not been carried away by the latest American employment of version to eliminate the second stage of labour, but states only well-accepted indications for this operation and gives honestly and practically the important points in its performance In Caesarean section we may not agree with the site of his abdominal incision, nor with the use of silk sutures to close the wound in the uterus, but we concur with the rest of his technique

In symphysiotomy we endorse his judgment that the after-treatment is extremely complicated and onerous

The illustrations are abundant and well-chosen and we congratulate the author on producing a text-book which is a distinct advance on many of its predecessors, in teaching by this graphic method rather than by long-winded description

P FLEMING GOW

Correspondence.

EXPRESSION *VERSUS* CAPSULOTOMY

To the Editor of THE INDIAN MEDICAL GAZETTE.

SIR—In your issue of July, 1922, there is a short article on "Extraction of the lens in its capsule" by Major F F S Smith, I M S, which I cannot allow to pass without a few words of comment No ophthalmic surgeon of experience is liable to be led astray by the first point in the paper, but the beginner might very easily carry away the impression that a thorough, careful and bacteriologically sound preparation for operation may be somewhat curtailed in order to gain the advantage of a quiet subject. This would be an entirely false impression and I would say emphatically that there is already far too great an inclination in India to treat operative eye work in a slipshod unsurgical way As in other regions of the body the most careful preparation is essential for success In this clinic the method adopted, although more exacting than that commonly employed in England, is not more productive of apprehension on the part of the patient than is mere examination on the operation table without preliminary ritual

It is the final portion of Major Smith's article which, however, requires exposure in a new light as it might deceive the inexperienced reader if allowed to stand as a responsible statement in your widely circulated paper I trust I am correct, if, in presenting another side to the picture, I take it for granted that Major Smith was ignorant of current American ophthalmic literature when he wrote his article The greatest admirers of Col Smith have never accused him of being ultra-scientific and some of his critics even went so far as to think that his ideas of scientific investigation were in abeyance One of his most deplorable faults in this connection was his failure to produce mass statistics in order to support his methods More particularly was this noticeable in connection with the "Expression" operation, although he had ample opportunity of supporting his results by accurate figures It is not to be wondered at therefore that certain scientific ophthalmic surgeons in other parts of India with considerable experience of the "Expression" operation remained sceptical as to the ultimate results of the procedure Their own accurately kept records did not support it I do not know what Major Smith's experience of the respective methods is but I may safely assume that it is infinitesimal as compared with that of the old combatants in this field The well worn argument "Expression *versus* Capsulotomy," which took up pages of your valuable publication some years ago, went steadily on Well known ophthalmic surgeons continued to hold diverse opinions Then in 1921 Col Smith went to America honestly anxious to show the superiority of his method American eye specialists were enthusiastic and keen to get at the truth and Col Smith was allowed to operate on numbers of cases I take no pleasure in drawing attention to honest failures, but I consider that scientific readers of your journal, who are searchers after truth, ought to know the results of this carefully recorded series of operations performed by the greatest exponent of the "Expression" operation They are compiled by scientists presumably biassed in favour of Col Smith's method in the first instance Without quoting at length those already published (see *American Journal of Ophthalmology*, February, 1922) I may say that they are alarming They are in fact so bad as to make all thinking ophthalmic surgeons hesitate before admitting the legitimacy of such a procedure without the production of a further large series of carefully recorded cases showing infinitely better results Major Smith has certainly not chosen the psychological moment to set forth his ideas in connection with the longevity and expectation of life of the "Capsulotomy" operation or to ask his concluding question

Yours faithfully

ROBERT E. WRIGHT, M D D P H
MAJOR, I M S
Superintendent of the Government Ophthalmic Hospital Madras

Note—We publish Major Wright's letter because of the great importance of the subject with which it

devils At the same time we feel that it hardly does justice perhaps to Colonel Smith Perhaps the situation cannot be better summarised than in the following admirable extract from an editorial on the subject in the American Journal of Ophthalmology for March, 1922 page 235 —"Success in cataract extraction has never been achieved by following rigorously the technic of another surgeon, no matter what success he has achieved by it Every one who desires to succeed in this most elaborated of all surgical operations should welcome and carefully study every new suggestion for modifying the technic of the operation But he should put in practice only such procedures as he has mastered, and which seem to him most rational and effective A good operation presupposes long and minute study of every one of its steps, and careful consideration of its dangers, perfect familiarity with every needed manipulation, a quick perception of every indication that arises while executing the operation, and wide resourcefulness for every emergency

The important point is not the choosing the most experienced surgeon, the wisest teacher, and reproducing as closely as possible the method he practices , but the careful trial and training of one's own powers, the slow development and perfect mastery of what is really one's own method The best operation will always be to some extent peculiar to the individual operator who practices it Even though it may be modified from time to time by the suggestions and example of others, it will still remain peculiar to the man who has developed it.

This operative individuality extends to all the conditions and surroundings, and to the assistants who contribute a necessary part to the success The best showing of any operator will be made in his own clinic, with his usual assistants and conditions The accounts of Col Smith's operations in this country in the last number of this *Journal* demonstrate the difficulties and dangers of operations done under unfamiliar conditions with unaccustomed assistants, no matter how good surgeons these assistants may be when doing their own operations The great service rendered by such leaders as Col Smith or Professor Barraquer is not that they teach a method that others must learn from them and imitate , but that they put before every serious student of their operations new points of view and new experiences, which he can ponder and try, and which may suggest to his mind some special modification of his own procedure that will make it still more successful"—Editor, *I M G*

SCABIES ?

To the Editor of The Indian Medical Gazette

Sir,—It would be interesting to elicit the opinion of one's colleagues as to the exact pathology of the disease universally diagnosed as scabies in the Far East For several years the writer accepted the dictum that the complaint was caused by Sarcoptes scabiei, as in Europe, and this in spite of constant failure to discover the parasite The obvious retort to the above is that the writer was not aware of the difficulty sometimes experienced at home in demonstrating the organism , but in view of the fact that in student days he worked for some months in the skin department at University College Hospital under the late Dr Radcliffe Crocker, and frequently demonstrated the Sarcoptes to students there, such criticism will hardly pass muster

In the early months of 1913 another European medical officer and several students searched the *early lesions* of ten cases in a large hospital and absolutely failed not only to demonstrate the Sarcoptes, but also even to find a single typical burrow The writer's contention is that throughout the Far East there is a skin disease, widely distributed, with exactly the same distribution as scabies, but due to a totally different cause

Yours, etc.,
W B ORME,
C M A Bureau, P M O's Office, Johore

1st July, 1922

Note—We have shewn the above letter to Major H W Acton, I M S, who is in charge of the Skin Department of the Calcutta School of Tropical Medicine , and who remarks that in his experience true scabies is not common in India , but that septic folliculitis is often mistakenly diagnosed as scabies—Ed, *I M G*

CINCHONA FEBRIFUGE IN MALARIA

To the Editor of The Indian Medical Gazette

Sir,—The publication of the results of the progressive researches of Major Acton and others regarding the treatment of malaria, as commented on in the editorial notes of the *Indian Medical Gazette* in its issue of May, 1922 has prompted me to write these few lines for the information of my fellow brethern in this country about the efficacy of cinchona febrifuge in the treatment of malaria

As is well known, 24-Perganas, specially its Baraset and Barrackpore sub-divisions, is notorious for the prevalence of malaria About 7 years ago, when I first came to practice at Nilganj, a village near Barrackpore, I found the entire neighbourhood badly infected with malaria and kala-azar, such as I had never come across in my 20 years' practice The economic condition of the people was pitiable to a degree, so much so that they could hardly meet the high price of quinine of those War-days, and so I had to think of introducing a cheaper and at the same time an efficacious drug for the treatment of malaria After some consideration, I thought of trying the cinchona preparations of the Bengal Government Of all the preparations the cinchona febrifuge gave me the most promising result without any symptoms of cinchonism, which is often dreaded I have subsequently used cinchona febrifuge in all cases of malaria and the results, particularly in very obstinate cases of tertian and quartan infections, have been most wonderful During the first two years of my arrival I had no less than 2,500 cases of true malaria, 50 per cent of which, according to the records, were perfectly cured by cinchona febrifuge The majority of the rest were also cured as was evident from the external appearance of the patients , but it is always very difficult to get a thorough record of all the cases in rural areas where, as is well known, people attach little or no importance to continuing the treatment as soon as they get a little benefit Some time ago when the authorities could not supply me with cinchona febrifuge for want of stock, I had no other alternative than to use quinine, but the results were not so satisfactory as those with cinchona febrifuge I strongly recommend this drug to my fellow brethern for trial The dose which I generally prescribe is 3 grains, giving not more than 10 grains daily, dissolved in Acid N M dilute or Acid Sulphuric dilute The drug is to be obtained from the Superintendent, Juvenile Jail Alipore

Further results from other practitioners are anxiously waited

Yours, etc.,
S N MUKERJEE, I M P
Nilganj, Barrackpore

13th July, 1922

Note—Major Acton asks us to mention that the vomiting which sometimes follows the administration of cinchona febrifuge can be avoided by not giving the drug within an hour and a half of a meal , and by giving it well diluted—Ed, *I M G*

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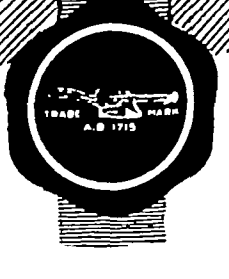
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Service Notes.

Appointments

The services of the following officers of the Indian Medical Service are placed permanently at the disposal of the Government of the United Provinces, with effect from the dates noted against their names —

Lieutenant-Colonel A W R Cochrane MB FRCS 9th September 1916 Lieutenant-Colonel H W Illius, FRCSE. 25th March 1917, Lieutenant-Colonel A E J Lister, MB FRCS VHS 30th October 1917, Major (temporary Lieutenant-Colonel) H Ross, O.B.E. MB FRCSI 26th February 1918, Major V B Nesfield MB FRCS IMS (retired), 24th August 1918 Major G A Jolly, MB FRCSE 11th November 1918, Major A Cameron, OBE. MB. 26th August 1919 Major H C Buckley, MD FRCSE. 19th April 1920, Major J S O'Neill, MC MB 20th April 1920 Major M R C MacWatters, MB FRCS 10th July 1920 Major C H Reinhold MC FRCSE 28th October 1920, Major B E M Newland 2nd November 1920 Lieutenant-Colonel J W D Megaw, MB 11th December 1920, Major H P Cook, MB FRCSE. 23rd January 1921 Major C H Barber, DSO MD 1st February 1921, Major J F Boyd 9th March 1921 Major W D Wright MB 19th March 1921

The Department of Education and Health Notification No 1237, dated the 6th December 1921, is hereby cancelled.

The services of Lieutenant-Colonel H Emslie-Smith MB IMS are placed permanently at the disposal of the Government of Bengal with effect from the 8th February 1922

Captain S N Hayes IMS is appointed to officiate as Professor of Physiology King Edward Medical College, Lahore with effect from the 2nd October 1922 *vice* Brevet Major T A Hughes, IMS on leave

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Major H H Broome, M.B FRCS IMS is confirmed in the appointment of Professor of Surgery, King Edward Medical College, Lahore, with effect from the 7th April 1922

Major P B Bharucha DSO O.B.E. F.R.C.S, I.M.S is confirmed in the appointment of Professor of Anatomy King Edward Medical College Lahore, with effect from the 7th April 1922.

Captain L A P Anderson, IMS is appointed to officiate as Assistant Director, Central Research Institute, Kasauli, with effect from the 13th April 1922, *vice* Lieutenant-Colonel S R. Christophers, C.I.E, O.B.E. IMS granted leave.

On transfer from Ferozepore, Lieutenant-Colonel J G G Swan, CIE IMS assumed charge of the office of Civil Surgeon, Lahore and Professor of Forensic Medicine and Toxicology, King Edward Medical College, Lahore, on the afternoon of 4th May 1922 relieving Lieutenant-Colonel D M Davidson, C.I.E., IMS proceeded on leave.

The services of Lieutenant-Colonels J C. Robertson, C.M.G, C.I.E, C.B.E MB, IMS, and E L Perry, DSO, IMS are replaced permanently at the disposal of His Excellency the Commander-in-Chief in India.

Major G G Hirst IMS an Officer-in-charge of a Medical Store Depot is appointed to officiate in charge of the Medical Store Depot, Madras, with effect from the forenoon of the 11th July 1922 and until further orders

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The services of Lieutenant-Colonel W J Collinson, MB, IMS, are placed temporarily at the disposal of the Government of Assam, with effect from the date he took over charge

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The services of Major J G B Shand, MB, IMS, are placed temporarily at the disposal of the Government of Madras for employment in the Jail Department, with effect from the date on which he assumes charge of his duties

---

Major B E M Newland IMS, Civil Surgeon, on return from military duty to Muttra

Promotions

The following promotions are made subject to His Majesty's approval —

Majors to be Lieutenant-Colonels

George Adam Jolly, MB FRCSE., dated 5th April 1922

Herbert Hallilay MB dated 26th July 1922

William Samuel Jagore Shaw, MD, Harold Holkar Broome MB FRCS, Davis Heron, C.I.E., MB, F.R.C.S.E., Henry Crewe Keates MD Leethem Reynolds, MB, Richard Arthur Needham, C.I.E., DSO MD (temporary Lieutenant-Colonel) Dwarka Prasad Goil, MB, FRCSE. James Kirkwood, MB FRCSE—Dated 31st July 1922

Captains to be Majors

Phirozshah Byramji Bharucha, DSO, O.B.E., F.R.C.S, Richard William George Hingston, MB, Reginald Charles Clifford DSO MC Latafat Husain Khan, Robert de Stretton Berkeley Herrick, DSO, Hargobind Lal Batra, MC, Murray Purvis, MB (Brevet Major), Walter Oliphant Walker, MB—Dated 30th July 1922

Doctor S B Lal late Captain, Indian Medical Service (Temporary Commission), to be acting Major whilst employed as Registrar, No 14, Indian General Hospital, Rawalpindi From 26th October 1919 to 30th April 1920

Leave

Major R B Seymour Sewell, Indian Medical Service, Surgeon Naturalist, Marine Survey of India, is granted, with effect from the 6th May 1922, privilege leave for 21 days, study leave for 3 months and 15 days and furlough on full average salary for 24 days

(Marine Department Notification No 29, dated the 28th April 1922, is hereby cancelled)

Lieutenant-Colonel F E Swinton, C.I.E., I.M.S, Officer-in-charge of the Medical Store Depot, Madras, is granted privilege leave from the forenoon of the 11th July 1922 to the afternoon of 26th July 1922

Brevet Major T A Hughes, IMS, Professor of Physiology, King Edward Medical College, Lahore, is granted, with effect from the 2nd October 1922, privilege leave for 7 days and leave on average pay for 5 months and 7 days in continuation of the College vacation

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Major J J Harper Nelson, O.B.E., M.C, M.D, F.R.C.S.E, I.M.S, Professor of Materia Medica, King Edward Medical College, Lahore, is granted, with effect from the 23rd September 1921, combined leave for 8 months and 23 days, *viz*, privilege leave for 15 days, furlough on average salary for 4 months and furlough on half average salary for 4 months and 8 days in addition to the College vacation from the 16th June 1922 to the 30th September 1922

The Department of Education and Health Notification No 1052, dated the 13th October 1921, is hereby cancelled

Retirements

Colonel Thomas Arthur Granger, C.M.G, M.B, is permitted, subject to His Majesty's approval, to retire from the service, with effect from the 1st August 1922

Subject to His Majesty's approval, the undermentioned officers have been permitted by the Right Hon'ble the Secretary of State for India, to retire from the service with effect from the dates specified —

Lieutenant-Colonel John Archibald Hamilton, C M G, M B, F R C S Dated 8th June 1922

Lieutenant-Colonel Ralph Henry Maddox, C I E, M B Dated 27th July 1922

Major Hugh Basil Drake Dated 21st June 1922

Subject to His Majesty's approval, Captain Henry Lewis Barker, M.D, has been transferred by the Right Hon'ble the Secretary of State for India, to the non-effective list, with effect from the 1st July 1922

Resignations

Captain Shiva Narain Govill is permitted, subject to His Majesty's approval, to resign his temporary commission, with effect from the 27th May 1922, and to retain the rank of Captain

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Captain Khanderao Krishnarao Dhairyawan is permitted, subject to His Majesty's approval, to resign his temporary commission, with effect from the 11th June 1922

Captain Dawasi Kawany Iyer Kanaka Sabhesan is permitted, subject to His Majesty's approval to resign his temporary commission, with effect from the 16th June 1922, and to retain the rank of Captain

Retention of Rank

With reference to Army Department Notification No 779, dated the 5th May 1922, and No 856, dated the 19th May 1922, the undermentioned officers are permitted to retain the rank of Captain —

Neelakanta Seshadrinathan

Frederick Nicholas Jayewardene

NOTICE.

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THE THERAPEUTICS OF THE CINCHONA ALKALOIDS

By R N CHOPRA, M A., M D (Cantab), MAJOR, I M S,

Professor of Pharmacology, School of Tropical Medicine Calcutta

PART I

I HAVE written this paper as, although a great deal of work has been done recently on the alkaloids of cinchona bark, I have not been able to find a connected account of the modern views of their action and therapeutics from the general practitioners' point of view Further, I have the privilege of being associated with Major H W Acton, I M S, whose classical researches on the cinchona alkaloids are well known, in the further researches which are now being carried out in this School and have had the opportunity of discussing these alkaloids with him, and this paper embodies his views

The genus Cinchona, from which this most valuable bark is obtained, is indigenous to South America and embraces 36 species of evergreen shrubs They are all restricted to the eastern slopes of the Andes, extending from Western Venezuela through Peru to Bolivia At an altitude between 3,000 to 10,000 feet, these trees flourish in a warm and moist climate, generally not forming forests or even groups, but attaining a considerable size, being as much as 100 feet in height The trees growing at a lower altitude contain little alkaloids The natives of these parts had only an imperfect knowledge of the febrifuge properties of the bark, as, although they gave it the name of 'Kinakina" or bark of barks, they seldom used it In 1639 the bark found its way to Spain, its fame soon spread to Italy and the Jesuits probably were chiefly instrumental in introducing it into France and England Gradually the properties of the bark became more and more known, its use became extended and as the only method of collecting the bark at that time was by felling the tree, fears were entertained that the supply of bark from South America would cease altogether Attempts were then made to transplant some of the species into other countries and a German botanist named Hasskarl was commissioned by the Dutch Government on an expedition, and he successfully brought plants and seeds by which plantations were started in Java A few years later Sir Robert Markham was sent on a similar errand by the Indian Government and he succeeded in introducing *Cinchona succirubra, C officinalis* and some other species into India, and plantations were started in the Nilgiris and in the Himalayan range near Darjeeling The cinchona trees are now so extensively cultivated in Java, and to a lesser degree in India, that the world is entirely independent of South America The Dutch soon realised the great commercial possibilities of these plantations and developed the cultivation of trees and collection of the bark on a thoroughly scientific basis, thus making Java the most important cinchona area in the world Most of the bark at present is derived from *C calisaya var ledgeriana,* which grows luxuriously in that island and has a very high quinine yield It contains 6 per cent of this alkaloid and in exceptional cases 10 to 12 per cent , *C succirubra* (red bark) yields 5 per cent of total alkaloids, of which 2 per cent is quinine , *C calisaya* (yellow bark) has 6 per cent of alkaloids, of which 3 per cent is quinine , and *C officinalis* contains 5 per cent of total alkaloids, of which 3½ per cent is quinine *C succiruba* has proved to be the hardiest and most easily cultivated and is largely grown in India It gives a high yield of total alkaloids 10 per cent , but the quinidine and cinchonine contents predominate over that of quinine The cultivation of *C ledgeriana* is, therefore, now being pushed forward in India The trees possess the maximum amount of alkaloid yield when they are from 6 to 9 years old The therapeutic effects of the bark are due to the alkaloids, of which quinine is the best known other alkaloids, quinidine, cinchonine and cinchonidine have until recently been little used in medicine

The bark is collected in the rainy season, when it separates easily from the stem The old method of felling the trees and stripping the bark was very wasteful, and MacIvor suggested removal of longitudinal strips 4 to 5 cm wide at intervals, the trunk afterwards being protected with a covering of moss, when a fresh growth takes its place , this is richer in alkaloid contents This process is known as "mossing and renewing" "Shaving" is only a modification of "mossing," as here only a portion of the bark is removed by shaving, the remainder being left behind to protect the trunk Another method of collecting is "coppicing," in which the tree is cut down to form a stool, and from this shoots arise which yield a very good quality of quill bark

Composition of Cinchona Bark—The finely powdered bark is made into a stiff paste with slaked lime, a sufficient quantity of water being added The paste is dried and extracted with hot petroleum which dissolves all the alkaloids, and from this they are recovered by shaking with successive quantities of dilute sulphuric acid The alkaloids are dissolved in acid solvent and are precipitated by adding excess of caustic soda to neutralize the acid, and this constitutes the *cinchona febrifuge,* which is manufactured and issued by the Government of India in the form of tablets, each supposed to contain 3½ grains of the alkaloids According to MacGilchrist (1915), the average composition of

cinchona febrifuge prepared from *C succirubra* bark at Mungpoo, is as follows —

Crystallisable alkaloids —	Cinchonine	16 58%
	Cinchonidine	5 84%
	Quinine	7 40%
	Quinidine	23 83%
Amorphous alkaloids	Grouped under Quinoidin	29 12%
Refuse, Moisture, Ash, etc		16 12%

The bark also contains, in addition, certain acids, neutral principles, a volatile oil, gums, starches, and colouring matter

Since Pelletiere and Dumas first isolated quinine and cinchonine, fourteen alkaloids have been discovered to be present in the bark, but most of these occur in very small quantities and from a therapeutic point of view one need only consider eight alkaloids which can be grouped in two series —

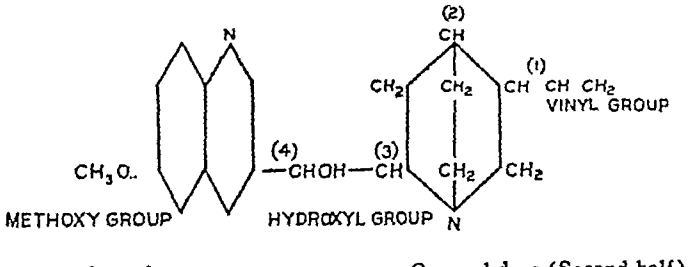
A *The cinchonine series* which include cinchonine and its isomeride cinchonidine and the hydro-alkaloids of the same, hydro-cinchonine and hydro-cinchonidine

These alkaloids occur in cinchona and cuprea barks, though the amount present shows great variations They can easily be separated from the associated alkaloids, are diacid bases and form two series of salts, *i e*, neutral and acid

B *Methoxy cinchonine or quinine series* which includes quinine and its isomeride quinidine and the hydro-alkaloids, hydro-quinine and hydro-quinidine Like the cinchonine series they also form a mono- and bi-series of salts

Two closely related alkaloids cuprein and its isomeride cupreidine and hydro-cuprein and hydro-cupreidine have also to be considered, which are found in cuprea bark—*Remijia pedunculata*—along with other cinchona alkaloids Both these alkaloids are hydroxy derivatives of cinchonine

Chemical constitution of the cinchona alkaloids —To understand the relationship between the different alkaloids found in cinchona bark, a brief reference to the constitutional formula will be necessary This has been now established by the laborious researches of Konig, Skraup and Rabe and is as follows —



Quinoline ring Quinuclidine (Second half)

QUININE

Where R=H in cinchonine and cinchonidine
OH in their hydroxy derivatives—cupreidine and cupreine
CH_3O in their methoxy derivatives—quinidine and quinine
R'=CH CH2 the vinyl group of the natural alkaloids
CH_2 CH_3 in the hydro alkaloids

The alkaloidal molecule is composed of two portions, the quinoline ring on the left and the quinuclidine nucleus on the right, generally called the second half of the molecule The two portions are connected by an alcoholic grouping

The quinine derivatives are formed by alterations in the three groups, methoxy, hydroxyl and vinyl groups For example, cinchonidine differs from quinine in the absence of the methoxy group, O CH_3 and if the methoxy group is replaced by an (OH) radicle, we get cupreidine

A large number of insoluble esters of quinine are prepared by substituting the H of the (OH) group by another group Such compounds are insoluble and therefore tasteless and can be easily administered, produce less side actions, though they are not altogether devoid of cinchonism In the stomach they remain unchanged, and on reaching the duodenum, split up into quinine base, producing in this way a gradual and somewhat weaker action To this group belong aristochin (diquinine carbonic ester), eu-quinine (quinine ethyl carbonic ester), soloquinine (quinine salicylic ester), and chenophenin (phenetidin quinine carbonic ester) The last two compounds exhibit the action of both the constituents, *i e*, of quinine and salicylic acid and quinine and phenecetin Hydro-quinine, from which most of the valuable hydro-derivatives are obtained, is formed by conversion of the vinyl CH CH_2 group into CH_2 CH_3 In the laboratory they are prepared by passing hydrogen gas through solutions of natural alkaloids in the presence of platinum This change makes the alkaloids much more stable to the action of oxidising agents and according to MacGilchrist they act more efficiently in the body, as they are not so readily acted on by the tissues

The interesting point in connection with the pharmacological action of the cinchona alkaloids and their derivatives is that from the piperidine ring they come close to nicotine, and their antiseptic properties are mainly attributable to the presence of a quinoline ring in the molecule

Attempts to synthesize quinine have so far met with but partial success By first preparing N bromotoxins, then heating with alkali to produce ketones and reducing them, substances resembling cinchona alkaloids in constitution and having a toxic action on infusoria were synthetically prepared Their toxicity on man is, however, very slight, and much more research is needed in this direction before success can be expected

Stereo-isomerism of the cinchona alkaloids — The researches of Major H W Acton, I M S, have shown the definite relationship which exists between the optical activities of cinchona alkaloids and their pharmacological action and it will not be out of place to say a few words about the stereo-isomeric relationship of the different alkaloids

From the graphic formula of quinine given above, it is evident that there are four asymmetric carbon atoms in the molecule (marked 1-4) and it is also obvious that any substance with this formula should have 16 optically active isomerides, 8 of which would be enantimorphic or mirror image forms of the other 8 The number of those actually known is very limited Acton has pointed out that since quinine is lævo-rotatory and

cinchonine is dextro-rotatory, quinine is not a derivative of cinchonine The true relationship is between cinchonidine, cupreine and quinine (with their hydro-alkaloids), which are all lævo-rotatory , and cinchonine, cupreidine and quinidine (with hydro-derivatives), which are all dextro-rotatory The action of these groups is more marked in certain directions , for instance, the dextro-rotatory alkaloid quinidine has been shown by him to have a greater destructive action on the benign tertian parasite than has quinine

Pharmacological action of the cinchona alkaloids—To apprehend the *rationale* of the therapeutic action of these alkaloids, it is important to have a clear idea of their general pharmacological action, and I will view it briefly, taking quinine as a typical example The type of action is the same in case of all the alkaloids

The action of quinine on undifferentiated protoplasm is quite characteristic Very dilute solutions such as 1 in 20,000 to 50,000 destroy amœbæ and paramæcia in a few hours, the activity of certain forms of non-pathogenic spirochætæ, spermatozoa and ova is inhibited at first and finally stops Certain protozoa are however not affected by quinine at all and some forms of life, such as salt-water amœbæ and the spirochætes of relapsing fever, are able to flourish in a 1 in 500 solution On bacteria quinine has a markedly destructive action, 1 in 1,000 solution being effective against tetanus, streptococcus, pneumococcus, etc Some of the newer derivatives of quinine, for example the cupreines, exert a powerful action on certain micro-organisms and this action as a rule increases as we go up the series from ethyl hydro-cupreine to iso-octyl-hydro-cupreine Thus quinine in 1 in 1,000 will destroy *B tetanus*, of ethyl hydro-cupreine 1 in 25 000 and of iso-octyle 1 in 60,000 and the same is true of streptococcus, staphylococcus, and *B diphtheriae* with some reservations

Ethyl hydro-cupreine, known under the trade name of Optochin, has a very high degree of toxicity for the pneumococcus, a 1 in 400,000 solution having a destructive effect on this organism in vitro This led to its trial in pneumococcic septicæmia produced in rats and guinea-pigs, but the results were not conclusive To get a bactericidal action it was found necessary to give 0 024 gm per kilo body weight in 24 hours and for an average man this will mean a dose of just over 1½ grammes But when the pneumococcic condition is at its height, the toxins have already had time to affect the tissue cells and mere destruction of pneumococci will be of little value Doses of 20 to 25 grains in 24 hours render the blood pneumococcicidal, but such effects of quinine as contraction of field of vision and amblyopia which are met with in therapeutic doses, are very much more marked in the case of ethyl-hydro-cupreine and even doses as small as 8 grains have produced optic atrophy with permanent blindness This stopped the further trial of this drug in man

Iso-octyl-hydro-cupreine or vuzin was extensively employed by the Germans during the war for disinfecting suppurating cases of gunshot wounds, owing to its bactericidal action on streptococci in very high dilutions (1 in 80,000) It was used in a strength of 0 1 gm in a litre of water and proved to be highly efficacious

Iso-amyl-hydro-cupreine has been found to have a specific effect in Vincent's angina and it may be useful in other forms of ulceration of spirochætal origin, such as Naga Sore We are investigating the antiseptic properties of the dextro-rotatory cupreidine compounds, and it is possible that this series, being more active pharmacologically, may ultimately give us the means of coping with these different infections

Ferments—Interference with the activity of ferments is a well marked property of quinine and its inhibiting action on the oxydases in blood is well known All the metabolic processes in the body, whether of anabolic or katabolic nature, are decidedly inhibited and tissue waste and energy production are both retarded

Various digestive enzymes are affected to varying extents according to the degree of concentration of the alkaloids Acton has studied the action of cinchona alkaloids on these enzymes *in vitro* He found that the activity of ptyalin, the starch digesting ferment of the saliva, was completely inhibited by the acidity produced by the acid salts, but as the digestion of starches is over in 10 to 30 minutes, no interference will result if the alkaloids are given half an hour after a meal Pepsin inhibition is more marked with the cinchonine series than with the cinchonidine series and the inhibition is less when the ferment attacks the protein, than when protein is first acted upon by the alkaloids On tryptic digestion quinidine has a more powerful inhibiting action than quinine , the action of erepsin is retarded by the presence of a 1 in 5,000 solution of quinine or quinidine The deductions of practical importance drawn from these experiments are that as the inhibition of peptic digestion is bound to lead to deficient peptone formation, the time of administration of these alkaloids in relation to meals is of the utmost importance They should be administered when they can interfere least with the activity of enzymes and he suggests that they should be given when peptic digestion is completed, *i e*, 1 to 2 hours after meals

Muscle —Quinine depresses the voluntary muscle and hastens fatigue The contractions of a frog's heart are decidedly weakened by 1 in 5,000 solution and 1 in 50,000 stops the heart in a few minutes

Intestine—Acton studied the action of quinine on isolated pieces of rabbit's intestine with a view to determine whether the attacks of diarrhœa occurring in patients taking large doses of quinine were due to any action on the musculature of the gut He found that although in concentrations of 1 in 10,000 to 20,000, these alkaloids increased the amplitude and slowed the rhythm

of the intestinal muscle, such dilutions were impossible to attain in the body The diarrhœa is very probably due to an interference with digestion both in the stomach and intestine

Uterus—Quinine has often been employed to increase the force of contractions in the second stage of labour under the belief that it favours the contractions of uterine muscle , it is also believed that given in large doses it has an ecbolic effect It should be remembered that the high temperature, which often accompanies malaria against which quinine is employed, may produce death of the fœtus and evacuation of this organ

Acton performed some very interesting experiments on the pregnant uterus of rats and guinea-pigs, by rapidly excising this organ and placing it in a bath of Ringer's solution (with traces of $MgCl_2$) and recording the contractions on a moving drum The drug to be tested was put in the bath and allowed to act directly on the excised organ He found that such dilute solutions as 1 in 300,000 were without any effect, 1 in 150,000 only produced contractions under certain circumstances and 1 in 44,000, a concentration which can never be attained in the blood unless the patient was literally poisoned with quinine, produced a tonic spasm of both the circular and longitudinal fibres, which, if maintained, would kill the fœtus Concentrations of 1 in 150,000, such as occur in the blood normally after ingestion of quinine in moderately large doses, stimulate the intermittent contractions, if now some exciting cause is present, *e g*, weak membrances or a patulous os, the membranes may rupture and labour be brought on in this manner

In the treatment of pregnant women suffering from malaria, the temperature should not be allowed to go beyond 103° F , and quinine should be given in divided doses of 3 to 5 grains every two or three hours, till twenty grains are given General measures to prevent abortion should be adopted

Cases of abortion from large doses of quinine are not infrequent in the first month of pregnancy though in a large majority of cases no ill-effects seem to be produced, as it is given indiscriminately by practitioners in this country

Effects on the blood and blood pressure—If quinine in large doses is given intravenously to an animal, certain changes are noticed to take place in the blood corpuscles The leucocytes loose their amœboid movements, become round and granular and diapedesis through the capillary walls ceases Such concentration however, cannot be attained in man with ordinary therapeutic doses, but the same type of effect is noticeable in the white corpuscles Their number is also reduced to half the normal per c mm of blood or even less, lymphocytes being chiefly affected This leucopœnia is often preceded by a preliminary leucocytosis and lasts for several hours

On the erythrocytes, the acid salts of quinine have a decidedly hæmolytic action in vitro and blackwater fever has been attributed by some to the toxic effects of quinine salts on the red blood cells Quinine circulates in the blood as quinine base and Acton has demonstrated that strong solutions of quinine and quinidine base such as 1 in 2,000 of normal saline produce no hæmolysis of washed red corpuscles in vitro incubated for twenty-four hours In case of the acid salts, such as the bisulphate, there is faint hæmolysis in 1 in 8,000 solution, but none whatever in 1 in 11,000

Intravenous injections of strong solutions of acid salts are, therefore, highly undesirable and there is no doubt that the rigors which are often observed after such injections, are due to the hæmolysis which is produced As a matter of fact injection of acid salts of quinine and other cinchona alkaloids, whether intravenous or intramuscular, is not correct from a physiological point of view, as they always circulate in the blood as bases They are preferred because they are very soluble and, therefore, convenient to administer

Blood pressure is definitely lowered after intravenous injections and Acton has pointed out that this depression is much more marked with the dextro-rotatory cinchonine series, quinidine being the worst offender in this respect Experiments show that it is ten times more toxic than quinine and its effects are more prolonged and it should never be given by this route

The action of quinidine on the heart has lately been the subject of much study owing to the beneficial effects it produces in auricular fibrillation and arhythmia and it is generally believed that this action is produced by its depressant effect on the heart muscle, which reduces its excitability to a point below that at which fibrillation is possible and also possibly an atropine-like action on the vagus It is usually given by the mouth in form of sulphate 0 2 gm being given on the first day and, if it is well borne, the dose is increased to 0 4 gm two or three times a day, and this can be kept up for 5 to 8 days In about 50 per cent of cases the medication has no effect and these are generally advanced cases of heart disease with extensive changes in the myocardum As the drug has a paralysing effect on the heart muscle, it should be given with caution and after a course of digitalis in cases of failure of compensation

Nervous system—On the cerebrum quinine has a tendency, though not so marked as other antipyretics, to allay pain In ordinary therapeutic doses, it has no effect either on the medulla or on the cord, but large doses depress these structures and the respiratory centre is especially attacked

On the peripheral nerves, the cinchona alkaloids and their derivatives produce a slow and prolonged abolition of sensation by direct effects on sensory nerve endings Lately a good deal of attention has been paid to their local anæsthetic properties and their potency can be judged from the fact that whilst a 1 in 50 solution of cocaine

hydrochloride will produce anæsthesia on the cornea of a rabbit, the same effects can be produced by 1 in 60 quinine hydrochloride, 1 in 100 hydro-quinine, 1 in 1,000 ethyl-hydrocupreine (optochin), and 1 in 1,200 of iso-amyl-hydro-cupreine

Quinine is often combined with urea and is used as a local anæsthetic This combination increases its solubility and its power of penetration into the cells, but the combination is decidedly weaker and has to be used in twice the strength necessary, when quinine alone is used As a rule 0 25 per cent solutions are quite effective

Quinidine and cupreidine compounds also possess anæsthetic properties, though their action is somewhat weaker , these are still under investigation

The disadvantage of all the cinchona derivatives over cocaine and its allied compounds is that the induction takes longer and they are more irritating and in stronger solutions may cause infiltration of the tissues and sloughing may result They also irritate the conjunctiva and their action is not deep seated otherwise they would be excellent anæsthetics for ophthalmic operations

Special senses —Eyes In toxic doses quinine produces contraction of the visual fields, diminution in acuity, colour blindness, amblyopia and amaurosis Ophthalmoscopic examination in these cases shows contraction of the choroidal vessels and the retina looks pale and œdematous In therapeutic doses it has little effect , most of the visual disturbances in patients taking ordinary doses of quinine in malaria being due to parasitic emboli in the retinal vessels

Ear —The common accompaniments, ringing in the ears and deafness appear to be chiefly due to congestion of this organ In animals, such effects can be produced experimentally by giving large doses of quinine Degenerative changes have also been noticed in the cochlear ganglia , chronic otitis media may be set up by long standing congestion producing permanent deafness When giving quinine to patients with middle ear disease, the possibility of its activating a quiescent condition may be borne in mind

Metabolism —This is affected by quinine in very small doses in a most remarkable manner There is a slight transient increase in the nitrogenous constituents of the urine, followed by a marked decrease especially in urea and uric acid This is probably due to its effect on the digestive enzymes, which decreases the formation of amino-acids and, therefore, diminished protein assimilation results This would by itself decrease the katabolism of proteins in the tissues and lead to decreased heat formation antipyretic effect The use of quinine, therefore, in wasting diseases has a rational basis, as it tends to check the excessive break down of proteins which occurs in these diseases

Absorption, distribution and fate in the body — In the stomach the quinine salts are dissolved by the HCl of the gastric juice and pass into the duodenum, from which they are taken up into the blood and circulate as quinine base If excess of alkali is present here, quinine is precipitated by the bile salts and may pass out into the fæces unabsorbed The soluble salts of the alkaloid are absorbed a little more quickly than the insoluble ones, for compounds like eu-quinine have first to be hydrolysed by the alkali of the duodenum before they can pass through the gut wall The rate of absorption varies, but there appears to be no doubt that a soluble salt is absorbed with great rapidity, the whole of the quinine being taken up, as none is to be found in the fæces It can be detected in the urine very soon after it is ingested According to Ramsden and Lipkin quinine does not circulate in the blood for a long time, if injected intravenously, 90 per cent disappears in about a minute's time In the various tissues it is distributed rapidly, only a fraction of from 23 to 60 per cent appearing in the urine as quinine base , till now no other recognisable derivatives have been detected There has been a difference of opinion as regards the distribution of quinine among the constituents of the blood, but recent researches by King and Acton (1921), show an approximately uniform distribution in corpuscles and serum A certain proportion of quinine ingested is metabolised The liver has been known to destroy morphine, nicotine and other alkaloids and probably deals with quinine in the same way

Excretion —In the fæces the excretion is so small as to be negligible By the kidneys it is excreted unchanged and if this organ is healthy the process is very rapid, quinine appearing in urine within 15 minutes of administration by the mouth (empty stomach) The excretion continues for 41 hours after a single dose by the mouth and after a succession of doses it may be found in the urine for as long as seven days After a single dose orally the acme of excretion occurs after 4 to 8 hours Never less than 23 per cent , or greater than 60 per cent , is eliminated from the body, the balance being either stored up in the tissues or is destroyed Probably the latter view is correct, as estimation of the total quinine in the body will not account for all that is missing

A fact of great clinical interest is that when more than eleven grains of quinine base per litre are passed through the kidneys, temporary albuminuria is produced This should be remembered when prescribing a heroic dose of quinine

Quinine idiosyncrasy —Some individuals show very peculiar susceptibilities in regard to quinine even when such minute quantities as 1|16th grain are given The symptoms which manifest themselves are urticaria, erythematous or bullous eruptions, dyspnœa, fever, nausea and vomiting A case has been recorded in

which three grains caused fever, bloody stools and severe prostration which disappeared on the following day, but reappeared some weeks later when the dose was repeated

These idiosyncrasies are not commonly met with in the tropics, where large doses, such as 30 to 60 grains are given, and the case appears to be similar to that of Potasium Iodide and only seen with small doses

Cinchonism—This name is given to the toxic effects, chiefly connected with the central nervous system, when quinine or other cinchona alkaloids are given in large doses and should be differentiated from idiocyncrasy, which is a condition of increased susceptibility and is brought on by very small doses The degree of toxicity of the different alkaloids varies, cinchonine being the most toxic, next comes quinine, then cinchonidine and lastly quinidine The association between the symptoms of intoxication and high concentration of the alkaloid circulating in the blood is very striking The early symptoms are nausea, headache (due to cerebral congestion), vomiting, ringing in ears, giddiness and disturbed vision (due to selective changes in the vessels) Photophobia, deafness, blindness—at first partial and then complete—appear later Apathy, mental depression and general muscular weakness supervene and with very high doses somnolence and loss of consciousness, delirium and finally death from collapse Large doses paralyse first the brain and respiratory centre and later the heart Quinine amblyopia and amaurosis have already been referred to

I saw twenty cases of quinine poisoning in East Africa, where a large dose had been given by mistake to a group of men taking it for prophylactic purposes The exact amount given could not be determined, but judging from the symptoms which developed, must have been fairly large All these men suffered from very severe symptoms of cinchonism starting within a few minutes of ingestion, four were unconscious, or rather semi-conscious for a few hours, all suffered from amblyopia, amaurosis and deafness for 1 to 7 days, but they all recovered by promptly washing out the stomach, and administration of salines and stimulants One case developed optic atrophy

The grave effects of cinchonism are only met with when the dose is increased beyond 40 to 60 grains a day These large doses are sometimes prescribed by practitioners in this country and are often continued for long periods, but it is certain that they do harm In my experience I have found that a maximum of thirty grains in twenty-four hours is as much as is needed, in most cases twenty grains are quite sufficient Such doses are quite safe and effective, they cause no symptoms of cerebral congestion and should not be exceeded There is no particular point in giving very big doses by the mouth, as the intravenous and intramuscular methods can always be resorted to when stronger concentrations are required

I believe there is a form of cachetic condition which occurs in patients taking large doses of quinine for prolonged periods In military practice where men who have suffered from malarial fever are put on to quinine for periods ranging from 2 to 3 months, this condition is not infrequently met with The patient looks pale and anæmic, is listless, has no inclination for exertion and has no appetite for food There is generally a jaundiced tinge about the conjunctivæ and the temperature is usually subnormal All these symptoms are put down as being after effects of malaria, but are probably due to the action of quinine on digestive and other organs, as stoppage of the drug or decrease of dose rapidly improves the condition

That quinine has toxic effects on the liver has been experimentally proved Intravenous injections of moderate doses in rabbits produce progressive degeneration of liver cells, which increases with the increase of dosage and it is possible that some such factor comes into play in these cases The toxic effects of quinine have been attributed by some to the formation of a body called quinotoxin which is formed by action of free organic acids on quinine and it is suggested that such conditions arise in the gut It is, however, found that this substance has a very low toxicity and cannot be responsible for these effects

(To be continued)

AN ANALYSIS OF THE CLINICAL PICTURE IN KALA-AZAR

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PART I

DURING the year from March 1921 to March 1922, five hundred and eighty-one patients attended my out-patient clinic at the Calcutta School of Tropical Medicine or were admitted under my charge in either the Medical College Hospital, or in the Carmichael Hospital for Tropical Diseases, Calcutta

The cases were diagnosed either kala-azar or non-kala-azar If the case was diagnosed as kala-azar, he or she was either (*a*) admitted in hospital (*b*) told to attend for treatment as an out-patient in the out-patient department, or (*c*) advised as to the treatment necessary If they were diagnosed as non-kala-azar, they were referred to the Medical College Hospital Dispensary or elsewhere, or, in the cases where a definite diagnosis was made, they were given a prescription and advised to attend elsewhere, if further treatment

was necessary The diagnosis of these cases was made as follows —

Diagnosed as kala-azar by spleen puncture	300 *
Diagnosed as non-kala-azar by spleen puncture	140
Diagnosed by means other than spleen puncture as kala-azar	62
Diagnosed by means other than spleen puncture as non-kala-azar	79

It is only the cases of the first two groups that are here analysed

On nineteen cases a second spleen puncture was performed, and on five cases a third Of these cases, two proved positive at the second spleen puncture, and one at the third One must not deduce from this that had the other 124 cases had a second spleen puncture 10 per cent of them would have shown the presence of *Leishman-Donovan* bodies, as the nineteen cases were selected ones It would probably be safe to assume that not more than three or four of the cases in which parasites were not found on spleen puncture were cases of kala-azar This small number will give rise to a negligible error

Geographical distribution—The patients were questioned as to where they lived, or had been living a few months prior to and at the time of their first attack of fever In very few of the cases was there any room for doubt as to the place at which they had contracted the disease Most of the mofussil patients had only left their native village to get treatment, and most of the Calcutta patients were permanent residents of the town

Table I gives the geographical distribution of the cases

TABLE I

	District.	Kala azar	Non-kala azar
Calcutta	Calcutta City	102	14
Adjoining Districts	24 Perganas	40	16
	Howrah District	16	4
Districts to North	Hooghli District	31	22
	Jessore	6	9
	Burdwan	18	19
	Nadia	14	10
	Murshidabad	1	1
	Malda	2	
	Rangpur	1	1
	Rajshai	1	3
	Dinajpur	2	
	Jalpaiguri	1	
Districts to East.	Khulna	1	2
	Pabna	9	2
	Faridpore	9	9
	Dacca	7	2
	Noakhali	2	1
Districts to South West	Midnapur	2	6
	Bankura	1	1
	Birbhum	1	2
Bihar	Purnia	2	
	Sonthal Perganas	2	1
	Bhagalpur	2	1
	Patna	3	1
	Dharbunga	3	
	Gaya	3	
	Muzaffarpur	1	
	Chapra	1	1
	Shahabad	2	2
Orissa	Balasore	2	1
	Cuttack	3	
	Puri	2	1
Elsewhere	Assam	1	
	Tippera	3	1
	United Provinces	2	
	Goa	1	
Place of origin of fever not recorded or doubtful			7
	TOTAL	300	140

* The roundness of this figure might suggest that the cases were selected. The cases were taken consecutively It was found that up to the end of March 300 definitely diagnosed cases had been collected, and as this represented about one year's clinical work, I decided to analyse the cases that had been collected up to this date.

The districts from which the cases came may be divided into seven areas (excluding a few cases which came from outside Bengal, Bihar and Orissa), namely, (1) Calcutta City, (2) districts adjoining Calcutta, (3) districts to the north of Calcutta, which are for the most part on the banks of the Ganges, (4) districts to the east, which lie in the river delta, (5) districts to the south-west, (6) Bihar and (7) Orissa

Table II shows the percentage of kala-azar cases and the percentage of non-kala-azar cases which come from each of these seven areas and also the percentage of cases that were kala-azar from each area

TABLE II

	Kala-azar cases No. per cent. of whole	Non kala azar No. per cent of whole	Of the cases of each dist., the percentage that were kala azar
Calcutta	102 34·0%	14 10·5%	88·0%
Adjoining Districts	56 19·6%	20 15·0%	73·7%
Districts to North	77 25·6%	65 49·0%	54·2%
,, to East	28 9·3%	16 12·0%	63·6%
,, to S West	4 1·3%	9 7·0%	30·8%
Bihar	19 6·3%	6 4·5%	76·0%
Orissa	7 2·3%	2 1·5%	77·7%

The most striking contrast is between areas 1 and 5, that is between Calcutta and the districts in Bengal which lie to the west and south-west of the city, the former provides 34 per cent of the kala-azar cases and only 10·5 per cent of the non-kala-azar, whereas the latter provides only 1·3 per cent of the kala-azar cases, but as much as 7 per cent of the non-kala-azar That is to say, that for every case of non-kala-azar that came from area 5, one-and-a-half case came from area 1, and for every case of kala-azar that came from area "5," twenty-six cases came from area "1"

To put it another way, of Calcutta cases of "spleen fever" 88 per cent are cases of kala-azar, whereas of cases from the districts included in group 5, only 30 per cent are cases of kala-azar The same contrast, though not quite so marked, will be seen between Calcutta and the districts to the north, here the figures are larger and therefore more reliable

It is obvious from the figures that either kala-azar is very much more prevalent in Calcutta than elsewhere in Bengal, or "spleen fever" from other causes is much less common

Sex, caste and age distribution—I have divided the ages into five groups, namely, (1) infants up to the age of three years, (2) children from three to ten years old, (3) ages from ten to twenty years (4) ages from twenty to thirty years, and lastly, (5) thirty years and older Anglo-Indians are grouped as Europeans Tables III and IV give the age, caste and sex distribution for kala-azar and non-kala-azar cases, respectively Figure 1 shows graphically the age distribution for kala-azar and for non-kala-azar

TABLE III

Kala-azar cases

	Infants	Ages 3 to 10 years	Ages 10 to 20 years	Ages 20 to 30 years	Ages over 30 years	Total
Males						
Hindus		17	63	44	32	156
Mahomedans		4	22	17	13	56
Indian Christians		2	5	5	2	14
Europeans		4	8	7	7	26
Chinese				2		
Africans					1	3
TOTAL						255
Females						
Hindus	2		10	5	1	18
Mahomedans		1	5		1	7
Indian Christians		2		2	1	5
Europeans		4	7	4		15
TOTAL	2	34	120	86	58	45
GRAND TOTAL						300

TABLE IV

Non-kala-azar cases

	Infants	Ages 3 to 10 years	Ages 10 to 20 years	Ages 20 to 30 years	Ages over 30 years	Total
Males						
Hindus			31	35	25	91
Mahomedans			10	7	10	27
Indian Christians				1	1	1
Europeans					2	2
Jews		1				1
TOTAL						122
Females						
Hindus	1	5	7	1	2	16
Mahomedans						
Indian Christians			1			1
Europeans		1				1
TOTAL	1	7	49	44	39	18
GRAND TOTAL						140

In order to gauge the value of the figures for the caste and sex distribution, I obtained the figures for the admissions into the medical wards of the Medical College Hospital and of the attendance of the medical cases at the out-door dispensary of this hospital for one month Tables V and VI compare, respectively, the sex and caste distribution for kala-azar cases, non-kala-azar cases and general attendance at the Medical College Hospital

The incidence in the two sexes does not show any striking difference There is a very distinct predominance of the disease amongst Christians The only other noticeable fact, and this was in all probability an accidental one, is that all of the

TABLE V

	Kala-azar cases	Non kala-azar cases	Of cases of each sex, the percentage that were kala azar	General medical attendance at the Medical College Hospital
Males	255 or 85 %	122 or 87 15 %	67 6 %	78 9 %
Females	45 or 15 %	18 or 12 85 %	71 4 %	21 1 %

TABLE VI

	Kala azar cases		Non kala azar cases		Of cases of each sex, the percentage that were kala azar	General medical attendance at Medical College Hospital
Hindus	174 or 58 %		107 or 76 4%		61 9 %	62 2%
Mahomedans	63 or 21 %		27 or 19 3%		70 0 %	19 3%
Indian Christians	19 or 6 3%		2 or 1 4%			
Europeans	41 or 13 7%	20 3%	3 or 2 1%	3 6%	92 3%	11 6%
Africans	1 or 0 3%					2·2%
Chinese	2 or 0 7%					4·8%
Jews						

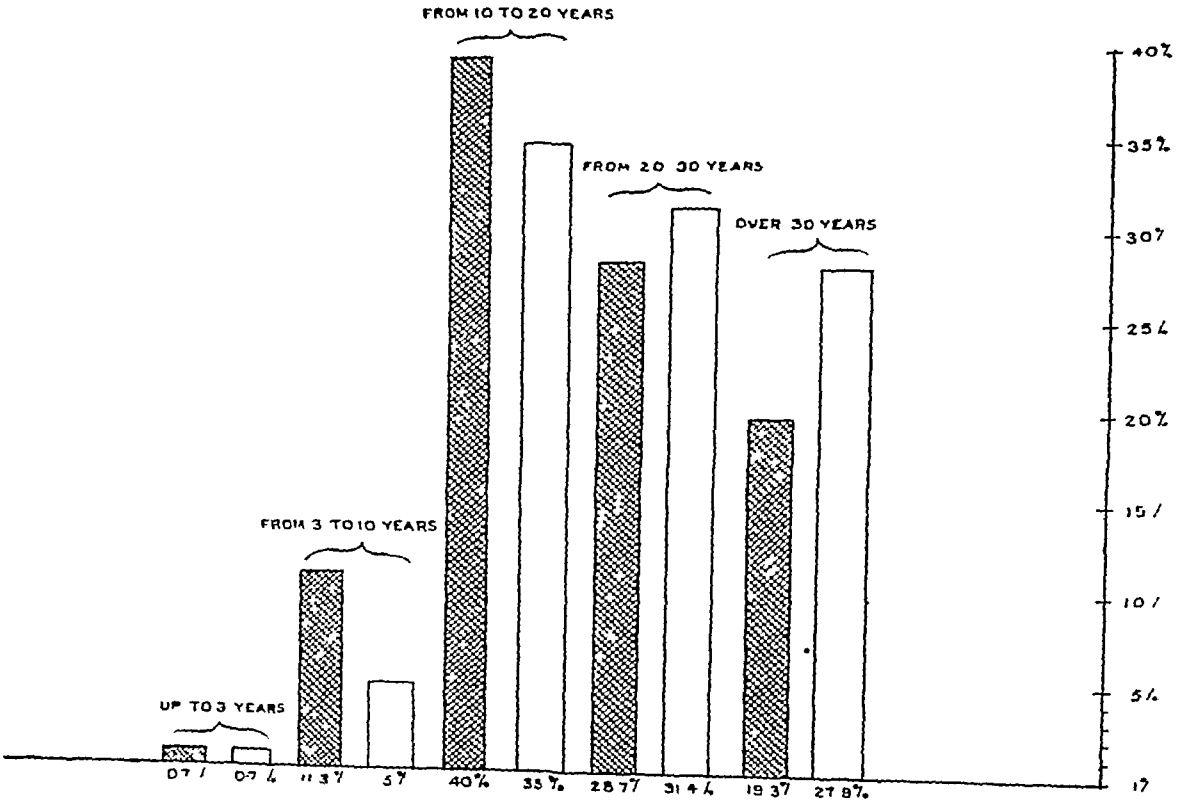
AN ANALYSIS OF THE CLINICAL PICTURE IN KALA-AZAR

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Figure I.

Diagram showing the age grouping in kala azar and non kala azar cases



Kala azar = Shaded areas.
Non kala azar = Blank areas

seven Mahomedan women who came for treatment were diagnosed kala-azar

A comparison of the age distribution is made in Table VII

TABLE VII

Comparison of age groups	Kala azar cases	Non kala azar cases	Of each age group the per centage of cases that were kala azar
Infants	2 or 0 7%	1 or 0 7%	66 %
Ages 3 to 10 years	34 or 11 3%	7 or 5 %	83 %
Ages 10 to 20 years	120 or 40 %	49 or 35 %	71 %
Ages 20 to 30 years	86 or 28 7%	44 or 31 4%	60 7%
Ages over 30 years	58 or 19 3%	39 or 27·9%	59 9%

It will be noted that the age groups from 3 to 10 years and from 10 to 20 years provided more than half the cases of kala-azar and that the former of these groups gives the greatest relative incidence

Nature of onset—The patients or their friends were questioned as to the kind of onset It was not always possible to get any definite story from the patient. Table VIII gives the various modes of onset that occur in both conditions

TABLE VIII

Type of onset.	KALA AZAR		NON KALA AZAR.		Of each type the percentage that were kala-azar
	Number	Percentage	Number	Percentage	
Double daily rise of temperature	33	12 5	5	4·0	86 5
Single daily rise of temperature.	126	49·2	49	39 5	72·0
Fever on alternate days.	4	1·6	3	2 4	57 0
High continuous fever	10	3·9	3	2 4	77 0
Low ,, ,,	5	1·9	3	2 4	62 5
High remittent and intermittent fever	9	3 5	2	1·6	81·8
An attack diagnosed as "typhoid"	4	1·6			100·0
Irregular fever	63	24 6	57	45·9	52 5
Enlargement of spleen only	1	0 4	1	0·8	
Eruptions followed by irregular fever	1	0 4			
Dysentery followed by irregular fever	1	0 4	1	0 8	
TOTAL	256		124		
Type of onset not noted	44		16		

It will be noticed that the history of a daily double rise of fever only occurs in 12 5 per cent of cases, but that when this history is given the case is almost always kala-azar, that is to say, the symptom is important as a point on making a positive diagnosis, but not in making a negative one Typhoid-like and high remittent and intermittent fever are other types which have diagnostic significance.

Family and house history of kala-azar—An attempt was made to get a family or house history of the disease in each case, but unless this history was fairly definite, it was ignored Table IX gives the result of this enquiry

TABLE IX

Family and house history of kala azar	Kala azar cases	Non kala azar cases
Two or more members of family had kala-azar	8	1
Husband had kala azar	1	
Father ,,	4	1
Mother ,, ,,	2	
Sister ,,	4	
Brother ,,	7	6
Other relatives in same house had kala azar	10	1
School fellow had kala azar	4	
Total (occupants of same house)	40	8
Near neighbours had kala-azar	15	6
Total percentage giving local or family history	18 3%	10%

83 3% of the cases giving a house history of the disease were cases of kala azar

A family or local history of the disease was not obtained in a very large number of cases, but it was obtained nearly twice as frequently in the case of kala-azar patients as in the case of non-kala-azar patients

History of rigors—Table X gives the figures for this symptom

TABLE X

Rigors	KALA AZAR CASES		NON KALA AZAR CASES.		Of each group the percentage that were kala azar
	Number	Percentage	Number	Percentage	
Patients giving a history of rigors at some period of disease	151	57 6%	68	57 6%	69%
No history of having had rigors	111	42 4%	50	42 4%	69%
Information not available	38		22		
TOTAL	300		140		

It will be seen that the presence or absence of this symptom is a matter of no diagnostic importance

The effect of quinine on the fever—Information on this point was not always obtainable The figures are given in Table XI

TABLE XI

Effect of quinine	Kala azar cases		Non kala azar cases		Of each group the percentage that were kala azar
	Number	Percentage	Number	Percentage	
Patients on whom quinine had no effect	111	71 1%	49	62%	69 4%
Temporary effect only	23	14 7% } 29%	12	15 2% } 38%	65 7% } 60%
Definite effect	22	14 1% }	18	22 8% }	55% }
No quinine was taken in	36		18		
No information was available in	108		79		
TOTAL	300		140		

Although quinine had a temporary effect as often amongst kala-azar cases as amongst non-kala-azar cases, it had a "definite" effect more frequently amongst non-kala-azar cases

Length of duration of illness—Table XII gives the length of duration of illness at the time of examination

(*c*) Cases that had been ill for six months, but less than nine months

(*d*) Cases that had been ill for nine months but not more than fifteen months

(*e*) Cases that had been ill for eighteen months or more

The reason for not keeping strictly to the periods of three months was that the period "about one year" probably indicated periods varying from ten to fifteen months, if not a wider range It seemed fair to bunch all these periods together in one group instead of making an artificial division As most of the symptoms and physical signs of the disease are dependent to some extent on the length of duration of the disease, I have divided the cases into these five groups for the purpose of this analysis

Figure II compares graphically the length of duration of illness before applying for treatment of kala-azar and non-kala-azar cases

It will be seen that a history of duration longer than eighteen months is very distinctly against the diagnosis of kala-azar

Date of onset of the disease—Figure III is a curve showing the date of onset of disease in

TABLE XII

Group	Length of duration of disease at the time of examination	Kala azar			Non kala-azar			Of the cases of each group those that are kala azar
		Number	Total.	Per cent.	Number	Total.	Per cent	
A	Less than 1 month	3			2			
	,, 2 months	9			7			
	,, 3 ,,	20	32	10·7	4	13	9 2	71 1%
B	Less than 4 months	29			6			
	,, 5 ,,	21			5			
	,, 6 ,,	28	78	26 1	7	18	13·0	81·25%
C	Less than 7 months	34			8			
	,, 8 ,,	10			6			
	,, 9 ,,	19	63	21 1	1	15	10 7	80 7%
D	Less than 10 months	11			3			
	,, 11 ,,	8			3			
	,, 12 ,,	4						
	about 1 year	50			26			
	,, 13, 14 or 15 months	3	76	25 4	1	33	23 7	68 7%
E	About 1½ years	16			7			
	,, 21 months	2						
	,, 2 years	12			13			
	,, 2½ ,,	2			1			
	,, 3 ,,	9			13			
	,, 4 ,,	3			5			
	,, 5 ,,	2			10			
	More than 5 years	4	59	16 7	11	60	43 2	45 45%
	TOTAL		299			139		63·26%

I have divided the cases into five groups, namely —

(*a*) Cases that had been ill for less than three months

(*b*) Cases that had been ill for three months, but less than six months

263 cases of kala-azar In seven cases the information was not available and in thirty cases the history was longer than two years These cases were not included as it was assumed that their history would not be sufficiently accurate to be of any value

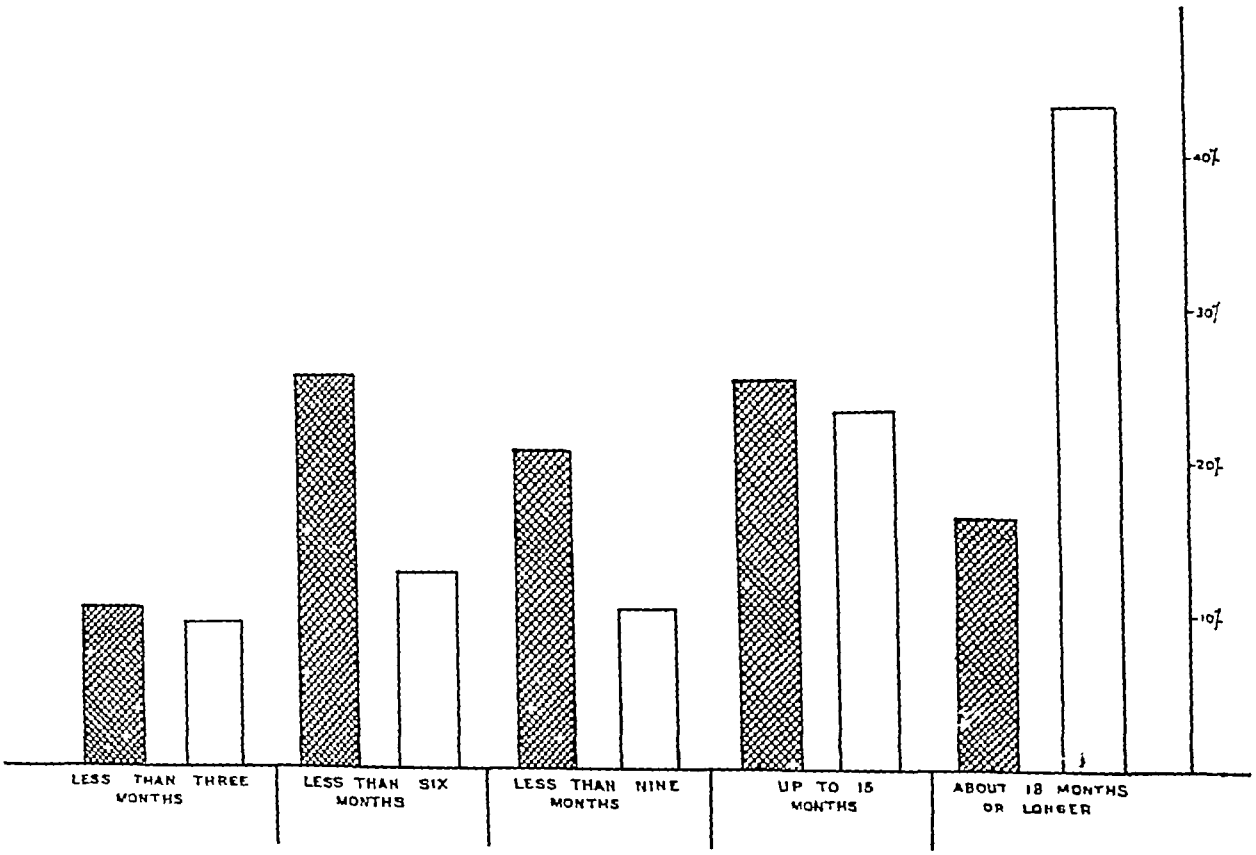
AN ANALYSIS OF THE CLINICAL PICTURE IN KALA-AZAR

By L E NAPIER, MRCS, LRCP (Lond)

Special Research Worker on Kala azar, Calcutta School of Tropical Medicine and Hygiene

Figure II.

Length of duration of disease prior to commencement of treatment



Kala azar = Shaded areas
Non kala azar = Blank areas

TABLE XVI

Group	Darker		Paler		No change		Total	
	K A	Non-K A	K A	Non-K A	K A	Non K K.	K A	Non K A
A	5	5	8	2	9	4	22	11
B	33	6	13	5	16	1	62	12
C	26	7	12	2	11		49	9
D	35	12	8	9	13	5	56	26
E	21	34	18	10	4	11	43	55
	120	64	59	28	53	21	232	113
Per cent of Total	51 7%	56 6%	25 4%	24 8%	22 8%	18 6%		
Per cent of each condition with K A	65 2%		67 8%		71 6%			

It would appear that a history of having become darker is not a point in favour of a diagnosis of kala-azar

Lung symptoms—The numbers and percentage of cases giving a history of a cough are given in Table XVII

TABLE XVII

Group	Total observations		No with		Percentage with	
	K A	Non-K A	K A	Non K A	K A	Non-K A
A	27	11	14	6	51 8%	54 5%
B	68	14	31	8	45 5%	57 1%
C	56	11	29	6	51 7%	54 5%
D	66	30	36	11	54 5%	36 6%
E	47	58	20	24	42 5%	41 3%
Total	264	124	130	55	49 2%	44 3%

This symptom appears to occur with equal frequency in both kala-azar and non-kala-azar cases

Loss of weight—Figures and percentages of the cases giving a history of loss of weight are shown in Table XVIII

TABLE XVIII.

Group.	Total observations		No showing		Percentage showing	
	K. A	Non-K A	K A	Non K A	K A	Non K. A
A	30	12	28	12	93 3 %	100 0%
B	72	15	67	13	93·05%	86 6%
C	57	14	55	13	96 4 %	92 8%
D	73	30	70	25	95·8 %	83 3%
E	47	56	44	48	93 6 %	85 7%
Total	279	127	264	111	94 6%	87 4%

A very large percentage of cases of both groups give a history of loss of weight, but rather a higher percentage of kala-azar than of non-kala-azar give this history, especially in the later stages of the disease

(To be continued)

THE PRODUCTION AND PHARMACOLOGICAL ACTION OF KHESARI AMINE

By HUGH W ACTON,

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and

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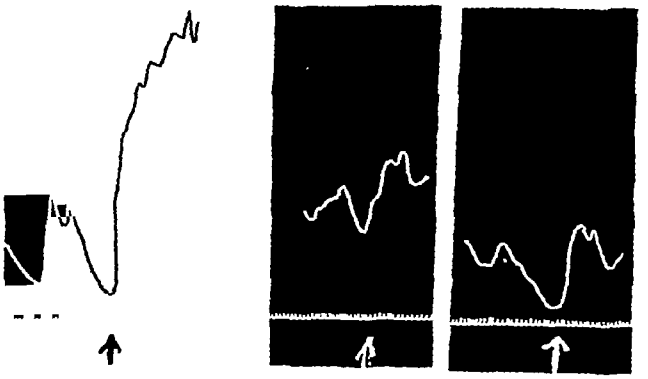
IN a previous paper, Acton 1922, on the causation of lathyrism in man, indicated that the poison was probably one of those simpler vegetable protein bases (amines), produced by enzyme action, both before and during the germinating processes In feeding experiments on animals this substance was shown to be water soluble, differentiating it from the poisonous alkaloids of plants As it was also soluble in chloroform, Stockman was able to extract it by the methods used for extracting alkaloids, and regarded it as an alkaloid The chemical differences between some of the more complex amines, betaines, etc, and alkaloids are not very great, for hordenine, the amine produced during the germination of barley, is regarded by some as an alkaloid Also, many of the amines derived from plant proteids are not so freely water soluble as the amines derived from animals, and are often soluble in chloroform, which increases the difficulty of drawing a sharp distinction between these two types of chemical bodies We will now proceed to show how this simple natural base in *khesari*

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Graph III

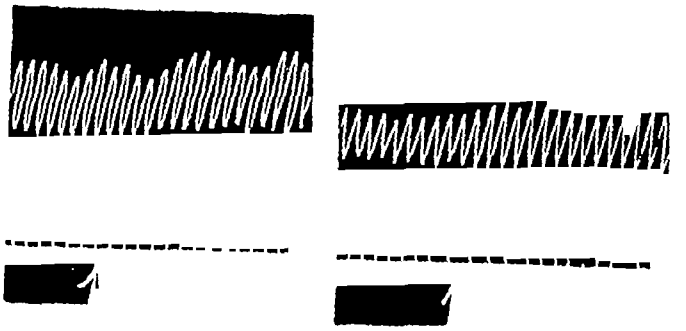
Uterus—Non pregnant, multip —Guinea pig



Khesari amine hydrochloride
—12,000 1—60,000 1—120,000
Time—6 secs
Cap of bath—240 cc
Load—heavy
Temp —37°5 c

Graph IV

Intestine—rabbit



Khesari amine ($CHCl_3$)
(1—12,000)
Temp 37°5c.
Cap of bath—240 c c.

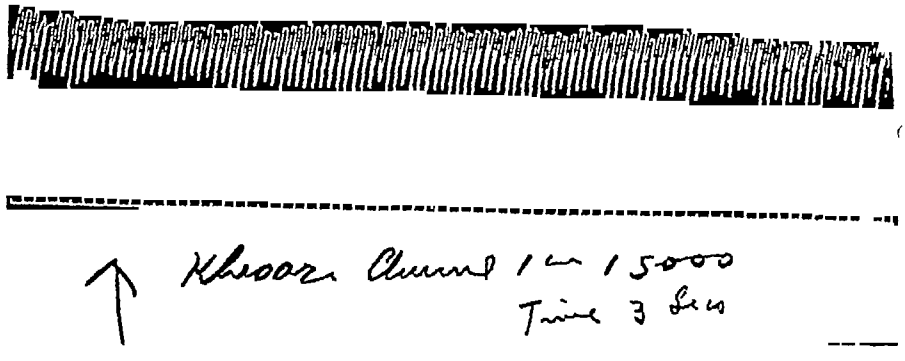
(Khesari $CHCl_3$)
(1—20 000)
Time—3 secs
Load—medium

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Graph I

Perfused heart—rabbit.



Temp. 37 5°C.

Graph II.

Cat, male—weight 2,820 grms — ether.

Blood pressure (carotid).
Rise from 128 to 137.



dâl has been isolated, and what are its pharmacological effects when placed in contact with the living tissues of animals Thus we will prove that lathyrism is caused by a chemical compound, which is formed in *khesari dâl* Our work was delayed for several months because we followed the view advanced by Stockman, that the poison was an alkaloid, and used his method for extracting this poison from the *khesari dâl* The yield obtained by Dr Sudamoy Ghose, D Sc, from this grain, was very small, about ten milligrammes from each kilo of the vetch, and most of it consisted of an oily base Whilst we were waiting for Dr Sudamoy Ghose to collect a sufficient quantity of this poison to test pharmacologically, we commenced another investigation on the action of cholera and dysentery toxins (to be published later), and found that the effects produced by these two bacteria were due to the formation of poisonous bases

As the chloroform extraction yields were so small, and we had shown by experiments that the poison was water soluble, and considered that the evidence pointed to this substance being an amine, we commenced to use a method for extracting amines, to suit our purposes, and obtained much better and purer yields of a crystalline chemical body from this vetch Dr Nihar Ranjan Chatterji, M Sc, then took over this portion of the work We are deeply indebted to both workers for the enormous amount of labour expended on our behalf to get a sufficient quantity of the poison to test pharmacologically The exact chemical constitution of this base will be published later in a chemical journal

The isolation of the amine—The germinating grain was dried in a steam oven, and ground into a fairly fine powder in a stone hand-mill The crushed grain was extracted with weak tartaric acid overnight in the cold room at 4° C, and next morning when the grain was quite soft, the whole of the mixture was boiled for two hours, in order to allow the tartaric acid to thoroughly penetrate the grain, and render any coagulable proteids insoluble The grain was three times extracted with tartaric acid A clear straw-coloured fluid was obtained after filtration, and was then precipitated by phosphotungstic acid The precipitate was next treated with weak acetone water, which dissolved a certain amount of the precipitated mass, and was again filtered The phosphotungstic acid was got rid of by baryta water, and the barium by passing carbon dioxide through the solution The precipitate was washed with acetone water The filtered clear straw-coloured fluid was made alkaline, so as to convert the amines into bases, and extracted with chloroform The chloroform extract was then shaken up with weak hydrochloric acid to form the soluble amine hydrochloride, leaving the oily residue in the chloroform The weak hydrochloric acid solution was evaporated down to dryness, and an apparently pure crystalline hydrochloride was obtained with needle-shaped crystals

The pharmacological action of the amine hydrochloride isolated from khesari dâl—In the previous paper (1922) it had been demonstrated that the main action of the *dâl* on the spinal cord was due to a vaso-constriction of the long and fine anterior and antero-lateral vessels causing ischæmia and death of these columns We therefore tested the amine on the following tissues —

(A) *On the isolated heart of the rabbit*—(*See* graph I) Here we found that when a dilution of 1 to 15,000 was slowly perfused through the heart, it had a very slightly depressant effect on the contractions

(B) *On the blood pressure of a cat*—(*See* graph II) When 24 mgms were injected into the left saphenous vein of a cat, the injection caused a slight rise in blood pressure from 128 mm to 137 mm, which was more than that caused by the injection of saline The limb and kidney volumes were not affected in any way As the amine did not act directly on the heart, and the limb and kidney volumes did not fall to any appreciable extent, the slight rise in blood pressure was probably due to a vaso-constriction in some vessels elsewhere in the body

(C) *On isolated guinea-pig uterus*—The excised uterus of a multiparous guinea-pig was placed in a uterine bath of 240 cc capacity with well oxygenated magnesium Ringer's fluid, the technique followed being that described by Dale and Laidlaw (1919) Varying amounts of *khesari* amine were tested, and it was found that a dilution of 1 to 12,000 was necessary to cause uterine contractions (*See* graph III, A B C) Clinically no mention was made by female patients that miscarriage may occur during the acute attack, the point was particularly asked for during the cross-examination of the women patients This pharmacological finding confirms the clinical observation, as such a concentration could never be attained in the blood during the attack

(D) *On excised rabbit intestine*—A piece of rabbit's intestine was placed in the bath filled with Ringer's fluid and tested as above. The amplitude of the normal contractions was not increased until a dilution of 1—20,000 had been attained (Graph IV)

The effects on animals—The amount of base available for experimental purposes was always very small until the technique was worked out for obtaining the maximum yield, and consequently a few animals only could be used in the tests

(1) *Monkey*—One monkey weighing 1,680 grammes was injected with 200 mgms of *khesari* amine hydrochloride it showed distinct spasticity of the hind limbs one hour after the injection It kept continually testing the spring of its hind quarters, as if to find out what was wrong Stockman used the whole of his alkaloid residue to get this effect He does not state the dose

(2) *Guinea-pig*—A guinea-pig weighing 125 grammes was injected with 80 mgms *khesari* amine hydrochloride Within three-quarters of an hour its hind limbs were completely paralysed,

whilst its front limbs could be moved (*See* Photo No I) As it crawled along, it became much worse, and looked as if it were going to die Next morning it had recovered (*see* Photo No II), but there was a good deal of spasticity of the hind limbs for a couple of days after the injection The animal completely recovered in about three days' time

(3) *White rats*—Two white rats weighing 230 and 92 grammes respectively, were given 20 and 10 mgms, into the side of the thorax The one weighing 230 grammes showed slight weakness in the hind limbs, and appeared off colour The other rat showed no symptoms A young white rat weighing 40 grammes was injected with 18 mgms of amine and became distinctly paralysed in the hind limbs within two hours

(4) *Mice*—Two mice, both weighing 30 grammes, were injected with 15 mgms of *khesari* amine hydrochloride Two hours after both showed distinct paralysis of the hind limbs The paralysis of both legs lasted for four days and one mouse escaped, and could not be followed any further The second died on the fifth day

These pharmacological effects show that the amine has a slightly depressant action on the excised heart, but there is a rise of blood pressure, which does not affect the kidney or limb volume, indicating that the rise of pressure is due to vaso-constriction in other parts of the body The action on the uterus and intestines is negligible, explaining the absence of miscarriages or diarrhœa in this disease The effect on animals also illustrates several points in the behaviour of these bases —

(i) *Large doses are required*—Indicating that many animals are not as susceptible as man, or that the poison isolated is in an impure state, and contains only a fraction of the toxic amine The latter view is hardly possible as only the enzyme in the grain is concerned with the elaboration of the amine

(ii) *The difference in the susceptibility of the species*—The relative difference between the guinea-pigs and white rat is shown in the above experiments, and the same fact has also been noted by Stockman

(iii) *The selection of certain areas for the vaso-motor phenomenon*—Thus with the *khesari* amine, we get a vaso-constriction of the antero-lateral spinal vessels in rice amine, vaso-constriction and increased permeability of the limb vessels in cholera amine, vaso-dilation and increased permeability of the vessels supplying the small intestines

(iv) *The transient nature of the lesions produced in animals*—With the *khesari* amine, although the lesion may be extensive, recovery takes place completely The same is seen in experimental beri-beri The cholera amine causes a fall of blood pressure, kidney volume, etc, which is transient in duration In man most of these lesions are permanent, indicating that the arrangement of the capillaries is different, so that when they are affected the blood supply of the part is completely obstructed and death of the cord occurs in lathyrism, of the nerves in beri-beri, or of the heart muscle fibres in epidemic dropsy, and of the surface epithelium of the intestine in cholera In animals the same effect occurs, but death of the tissues does not take place owing to the existence of either a more perfect collateral circulation, or a greater vitality of the tissues, or else regeneration is more readily carried out in animals, *e g*, a lizard's tail

Pathological lesions in animals—Stockman and ourselves have been unable to find lesions in animals, and this is not surprising from the foregoing effects The only hope we have is to study the cord lesions found in men who have died after suffering from this disease At present the pathological anatomy is based on the signs present in lathyrism

The amount of bases present in khesari dâl—In the first paper (1922), we were informed in Rewah that the large grain lakh was grown on wheat land, and the smaller grain lakhari grown on rice fields Dr Dobbs informs us that we are wrong in this view In specimens of *khesari dâl* sent to us we were unable to notice any difference in the seed until the grain was soaked and allowed to germinate for 48 hours The following is the result of three of these experiments —

(i) Four kilos of *khesari dâl* were moistened with water, and kept for 48 hours at the laboratory temperature, between 80° to 90° F, at the hottest part of the day one kilo germinated and three remained ungerminated

(ii) Eight kilos of mixed grain out of which two kilos germinated

(iii) 15 kilos out of which 7½ kilos germinated

During the germination process the seeds swell up, and imbibe a good deal of water, so the figures given are much lower owing to the additional weight of water The germinating seeds have a lighter colour and thinner coat, which shows the difference between the two kinds of grain We made several assays to test the quantity present in the germinating and non-germinating seeds, but as our technique was not accurate until the last few months, only the final assay is given

From 7½ kilos of seed germinating for 48 hours, 160 mgms of amine were obtained per kilo

From 2 kilos of non-germinating seeds, 102 mgms of amine were obtained per kilo

Allowing another 20 per cent owing to the difference in weight of water imbibed by the germinating seeds, the yields of amine after 48 hours have been nearly doubled during the germinating processes It becomes more and more evident that, although the inspiration of a particular piece of research may be the work of one individual, the completion of the enquiry requires a team of workers Here we require the help of a botanist to tell us whether the *khesari dâl* is of two species, or represents ripe and unripe grain, or is due to differences in the coat of the seed The

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Photo No I

Guinea pig—weight 125 grammes—Injected 80 mgm of Khesari Amine Hydrochlor



One hour after injection both hind limbs were paralysed Front limbs can be moved

Photo No. II

Same Guinea pig as photo No 1, on the next day



Recovery from complete paralysis and spasticity of hind limbs as seen on the photo

clinician investigates the disease, the pathologist describes the morbid anatomy of the lesions, the poison is isolated by the chemist, and the pharmacologist applies the necessary tests on living tissues and animals. These results can only be obtained by the co-operative brains of a team of workers, each an expert in his own line.

Conclusions.—(i) *Khesari dal* as sold in the bazaar contains two kinds of seeds, as regards their germinating properties. From 25 to 50 per cent. germinate, the rest fail to sprout.

(ii) The germinating processes increase the total amount of amine in the grain, explaining the frequency of this disease during the Monsoon.

(iii) The toxic principle resides in the non-volatile amines, which are soluble in water.

(iv) The main pharmacological effect of the non-volatile amines is slight vaso-constriction.

(v) Large doses of non-volatile amines are required to reproduce the disease in animals, indicating a difference in susceptibility.

(vi) Man, although probably more susceptible than most animals, requires large doses as well, *e.g.*, the close association between an exclusive vetch diet eaten by the bondmen during famine years, and the frequency of lathyrism.

(vii) In man the lesions are permanent, indicating destruction of the tracts of the cord; in animals the disease is transient and soon passes off, suggesting ischæmia and interference with function, rather than permanent destruction.

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THE CARE OF WOMEN AND CHILDREN IN INDIAN INDUSTRIES

By DAGMAR F. CURJEL, M.D. (Glas.), D.P.H. (Cant.)

Women's Medical Service, India

[An address delivered at the meeting of the Rotary Club, Calcutta, on August 22nd, 1922.]

In the United States earlier and more extensively, and later in the United Kingdom, managers of works and factories realised that the establishment was as much interested in the health and well-being of its operatives as they were themselves. The result has been that, in the course of the last few years, a new duty has been laid upon works' managements under the name of "Welfare Work."

Welfare work may be defined shortly as the provision by the management for the workers of the best conditions of employment. This is partly philanthropy, or rather common humanity, and partly a way of increasing industrial efficiency.

Legislation provides what one might call a minimum objective standard of welfare; for instance Factory Acts lay down certain requirements in regard to conditions of work, but these requirements do no more than specify a general minimum to be attained in all circumstances. A drawback to the use of factory legislation as a standard of welfare is that the two are not independent of each other, because employers are turned to for guidance in the attempt to set up standards, and the law proceeds along paths already marked out by individuals.

In the United Kingdom welfare work during the war developed chiefly where women and girls were concerned. In many cases it was first found necessary for the manager or welfare supervisor to make the women realise that increased efficiency would benefit not the firm alone, but each individual operative, that in the matter of welfare work the interests of both parties were identical, that both stood to gain by an improvement in the workers' health and comfort, and that neither could attain this without the help and co-operation of the other.

The Home Office, by virtue of a clause passed through Parliament in 1916, has made welfare work part of its requirements under the Factory Acts, primarily for women and boys.

With the return to peace conditions in the United Kingdom, the movement which originated in firms employing a preponderance of women and juvenile workers, has spread to almost every industry. The simplest form of organisation is to be found in small firms of the family type, where the employer runs the business and is his own manager, in such a case the welfare worker fulfils all the duties towards the workers for which the employer cannot find time, *e.g.*, engagement of labour, dealing with insurance cards, wages' queries, etc., and a certain amount of purely routine administrative work. At the opposite extremity in organisation is the large firm employing hundreds of workers, where the welfare worker takes his place along with the other specialists, as the head of a large department, frequently known as the Employment Department. In these firms, where a representative works' committee has been developed, there is a strong tendency for the welfare worker to be its secretary, and for the committee, in a very large measure, to control the policy of the Welfare Department.

Before the war the great Trade Unions practically ignored the welfare movement, and the present changed attitude of trade unionism to welfare work is more an affair of the relation between individual Trade Union officials and welfare workers and works' committees, than of public pronouncement, but is reflected in the action of joint industrial councils for various trades, in many

of which welfare and health questions take a prominent place

A special authority, the Industrial Fatigue Research Board, has been set up by Government in the United Kingdom, which works in co-operation with the Medical Research Council, and is prepared to assist employers in the consideration of health problems, such as the prevention of fatigue, the length of the working day, the arrangement of intervals, etc

As one studies what is at present being done in different parts of the United Kingdom under the name of welfare work, one finds that the idea of what *is* welfare is rather vague and subjective, and varies in different works and in different localities One would expect, therefore, that in a vast country such as India, where very different conditions are encountered from those met with in western industries, that the ideals of welfare would necessarily also differ The resolutions passed at the first All-India Welfare Conference which was held in Bombay in April last show that the experience gained in other countries is being applied, but with the necessary local modifications, to the problems met with in Indian industries

Resolutions were passed at that Conference regarding sanitation and hygiene, training of welfare workers, housing and many other subjects, including maternity and infant welfare It is with the last subject that I, as a medical woman working in India, have been chiefly concerned, and it is with this one aspect of welfare work that I propose to deal to-day

Some years ago, when working in Indian cities, I learnt that it was neither possible nor practical to consider the subject of maternity and child welfare as an entity dissociated from the various environmental and economic factors which exert so great an influence on the lives of Indian women and children, for instance, the problems of bad housing and domestic sanitation affect the welfare not only of the men folk, but of every single member of a family, and from the solution all will benefit The same observation, I think, holds good when one considers the welfare of industrial women and of child workers in India, for to a large extent the conditions under which men workers are employed and live must necessarily influence the well-being of their women and children

In this connection it is interesting to remember that some of the first factory legislation in India was introduced for the relief of women and child workers, and that the better conditions now obtainable by male labour date largely from these recommendations originally made for women and children

The important part played by disease in rendering Indian labour inefficient has now been recognized, and much has been done by the provision of good sanitation, the supply of pure water, etc, to fight disease among industrial workers

The special needs of the Indian woman worker and her child have, however, received less attention, and, as was pointed out by Mr Joshi, M L A, the Indian labour delegate, at the meeting of the International Labour Organisation at Geneva last October, the need for relief in connection with child-birth has as yet scarcely been met

Welfare work among industrial women and child workers is developing in an interesting way at the present time in certain parts of India

The larger number of industrial women workers are employed in the Bombay Presidency and in Bengal Social work is well organised in the Bombay Presidency, and a number of Indian mill owners in Bombay have found that it pays to take care of their women workers and their children For instance, in Bombay City, in Ahmedabad, in Sholapur, in the cotton mills there are special medical dispensaries for women workers and their children, under the care of women doctors or nurses In addition, crêches or day nurseries are organised in the mill compounds, where working mothers may leave their young children to be cared for, while they themselves are in the mill I understand the managers have found that under these conditions the women come more willingly to work, and work more steadily while in the mill The mothers are happy that their children should be cared for, and the crêches are well patronised In certain mills, in addition, a scheme of maternity benefit has been established

At Nagpur, in the Central Provinces, work started in a small way in the cotton mills, has grown so much that in addition to a crêche, sewing classes and health talks are held for the mothers in the intervals of their work, and a midwifery service has been started, which is much used by the women workers The object of providing aid at child-birth is to prevent the frequent ill-health, and even on occasions death, among the women workers, which was found to result from unsatisfactory maternity conditions

In certain cases special provision is being made for the wives of men workers, women who do not themselves undertake industrial work The object of this is to get settled and contented labour, for it has been found that if his women folk are living with him, and hale and happy, an Indian workman settles down and does much better work A good example of such work is that carried

out under the direction of the Welfare Organiser of the British Indian Corporation at Cawnpore The medical work carried on there by a woman doctor and nurses aims chiefly at being preventive in nature, the object is not to have sick women and children come for treatment, but to encourage mothers and their children to attend regularly that they may be kept in good health

The provision of medical advice for casual women workers, such as coolie women, and preventative treatment for their children is a difficult problem, and is at present perhaps best met by municipal and voluntary agencies These mothers can rarely afford the time to attend a large hospital out-door dispensary, which may be situated a distance from their homes and place of work, nor are such women always welcome in a busy hospital dispensary full of serious cases, although we know that slight ailments, if neglected, may lead to serious ill-health The infant welfare centres and Baby Welcomes at Bombay, at Delhi at Madras at Bangalore and other places help to meet the need of these women and their children Such centres are chiefly for preventive treatment, and any serious case is helped to go to a hospital

For the past year I have been learning what are the conditions of employment before and after child-birth of women workers in Bengal industries, and for this purpose I have been given opportunities of visiting jute and cotton mills, the tea districts and the coal fields

It is not possible in the course of a few minutes to discuss the bearing of the many different environmental and economic conditions with which one has become familiar during the course of this enquiry on the welfare of the woman worker and her child But since I have been asked to speak to you to-day about my work I should like to mention some facts about the health of women workers and their children, which concern the jute and cotton mills around Calcutta and are but little modified by the various local conditions met with in different mills

In each mill compound you find a doctor-babu and a dispensary, but when you enquire you find that relatively very few women workers come for treatment, and those only for accidents or general complaints For the special diseases of women and young children hardly any relief is given, because for these things the women will not often come to a man doctor Midwifery cases are conducted by the indigenous *dai* or untaught midwife I met and talked with a number of such *dais* their methods I found were very similar to those common among *dais* in other parts of India, and which, experience has taught us, if not supervised, lead to much ill-health and suffering among their patients In one large jute mill I heard that the workmen had recently asked the management for better medical facilities for their women

I found a very different state of affairs in a jute mill where a nurse has recently been employed to care for the women workers and their children In the first six months over 2,000 women workers and young children have come to her dispensary, and the manager told me that the Agents were satisfied that such medical relief was financially a sound investment On a subsequent visit I found she had still further gained the confidence of the workers, and she was able to persuade women who needed doctor's treatment to come with her to the mill doctor

In jute mills women work chiefly in the Preparation Department where there is often much dust and fluff, and the young babies lie around in this far from healthy atmosphere, accidents also occur to these young children It would seem as if crêches established in connection with jute mills in Bengal would prove equally beneficial to those I have described in other parts of India

There seems to be a place in a mill compound in Bengal for a nurse-midwife or health visitor to concern herself with the health of the women workers and their children, and also to superintend a crêche, were such established The cost attendant on the employment of such a woman is relatively very small compared with the sums expended by mills on the sanitation of their compounds, etc and I think judging from the experience already related, it would be found to be profitable expenditure Much of course, depends on the employment of a suitable nurse, and it has been found that nurses who in addition to hospital training have had experience of out-door work in Indian cities are the best suited for the work Such experience is gained by nurses during the course of training for a Health Visitors' diploma This training can be obtained in northern India, at Delhi and Lahore, and also in Madras, but as I have toured in Bengal, and met both employers who were willing to employ health visitors, and nurses who were willing to take the training, it has seemed to me a great pity that there is no health training centre or "Health School" in this province, for capable women who, from lack of sufficient knowledge of English or the local vernacular, cannot take advantage of the teaching offered in other parts of India

On tea estates in Bengal where, owing to the scarcity of labour, so much is done to make women workers content I found in many cases provision was made for women workers both before and after child-birth but that the women had only *dais* to attend them during confinement and, therefore, the results were often far from satisfactory

There is also considerable mortality among young infants towards the end of the first year Here it seems obvious that a health visitor, who could gain the confidence of the women, supervise the *dais,* and help to look after the young children, might effect much saving of life

On the coal fields I found the midwives employed by the Asansol Mines Board of Health doing very useful work, and there seemed room for more workers

In an iron works on the coal fields, where a Labour Adviser is employed, I found medical provision being made for workers' wives, perhaps as the success of this experiment becomes evident, the value of this care for the workers family may be more generally recognized

I have been interested in the home-life of the women workers, both as seen in quarters provided by the mill, and among those who live outside in the bazaars Imported labour brings women with it, and when these men return to their country, the women are usually left behind In many cases the quarters provided in a mill compound permit of little privacy, and where there was evidence of a more real family life, I found in most cases the family lived outside in a bazaar or *bustie*

As regards the casual woman worker in Calcutta, it is surely unnecessary for me to describe the fine work done by the Municipal midwives, nor the interesting work that has been started with the help of the St John's Ambulance and the Red Cross Association among Indian mothers and children, you must yourselves be acquainted with this excellent work One can only wish that it may spread still further, even among the coolie women workers by the dockyards, who also are in need of help

Correction

In Dr McVail's article on the Blood Count in Ankylostomiasis, *I M G* October 1922, page 366 Table, column 4, for average 2,781 please read average 2192 86 The error was not noticed as Dr McVail was on tour

A Mirror of Hospital Practice.

A CASE OF SALIVARY CALCULUS

By GURAN DUTTA MALL,

Medical Officer, Kotli, Mirpoor, Kashmir State

RAJU, Hindu male aged 70, was admitted to hospital on the afternoon of the 19th April, 1922, suffering from extreme emaciation, inability to take food, and an offensive and purulent discharge from the mouth The patient had suffered from this trouble for 12 years and had been in the habit of having the swelling punctured by a barber when it increased in size Twelve days prior to his admission to hospital, the swelling had increased to such a size that the intake of even fluids was difficult

On examination it was found that the mouth was kept half open and a very purulent discharge constantly dribbled from it The tongue was coated with a thick fur and retracted The floor of the mouth was the seat of a big swelling, about the size of an orange The duct of the left sub-maxillary gland was tremendously dilated and hard to the touch

Operation—An incision was made into the duct of the left sub-maxillary gland and a calculus was found embedded in the duct with its flattened surface lying under the under surface of the tongue and one end towards the gland An attempt to remove the calculus with a S W artery forceps failed The handle of a scalpel was then passed along the under surface of the stone which was tilted up and its final extraction completed with a lithotomy forceps The calculus was fusiform in shape and of a phosphatic nature It weighed 9 drachms The patient made an uneventful recovery

NOTES ON A CASE OF BRONCHOMONILIASIS

By M J PARMANAND, MB, BS

(*From the Bacteriological Department, Grant Medical College, Bombay*)

INFLAMMATORY conditions of the lungs resulting from invasion by fungi are not unknown and may be caused by lower as well as higher fungi, the resulting pathological conditions have been described under the broad term "Bronchomycosis" Such cases are often met with in the tropics and unless carefully examined are extremely liable to be mistaken for pulmonary tuberculosis

Cases of Bronchomycosis have been described by Castellani and others and the infection has been definitely proved to have been caused by a lower fungus of the genus Monilia or Oidium or by higher fungi such as Mucor, Aspergillus and Penicillium Bronchomycosis is common in Ceylon and is generally due to Monilia tropicalis, Castellani, and the same fungus may be found in cases coming from Southern India Castellani has published many cases of Bronchomoniliasis from Ceylon since the year 1905 Col Sprawson in 1918 reported from Mesopotamia ten

NOTES OF A CASE OF BRONCHOMONILIASIS

By M J PARMANAND, MB, BS

(From the Bacteriological Department, Grant Medical College, Bombay)

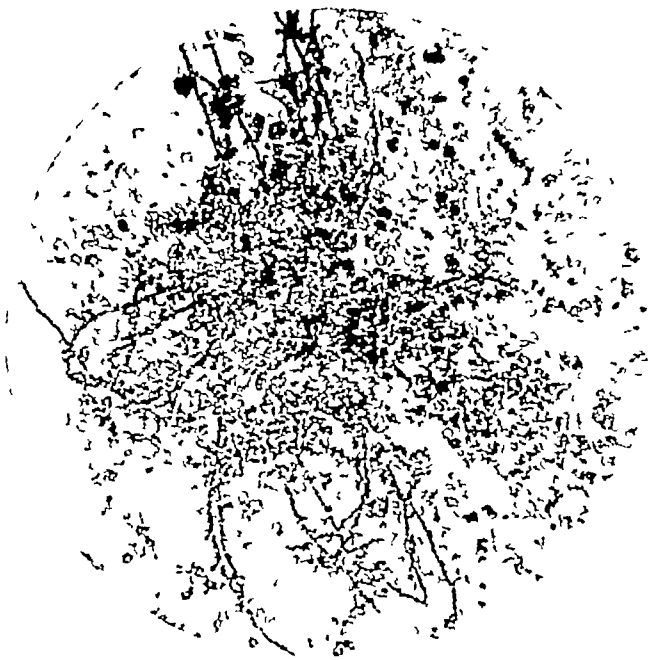


FIG 1 —Stained specimen of sputum showing mycelial filaments

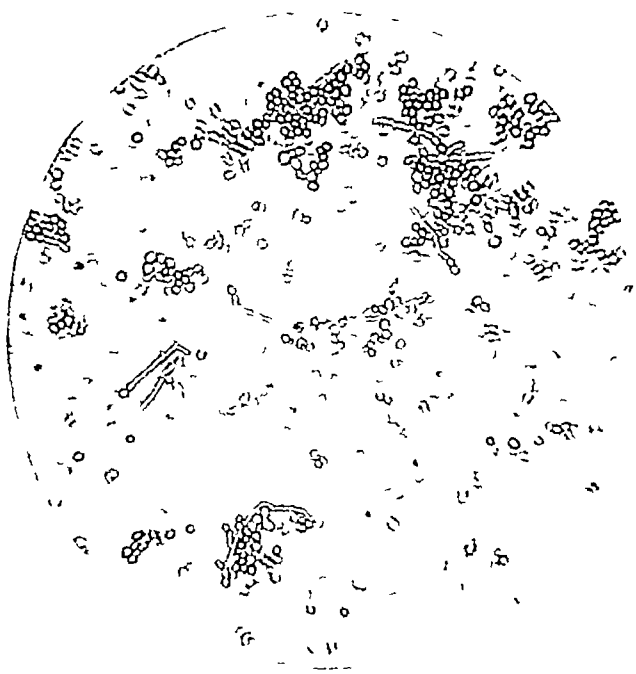


FIG 2 —Fresh (coverglass) preparation of the culture

cases of continued fever with pulmonary symptoms caused by a general infection with a fungus of the Nocardia genus, whilst a case of pulmonary aspergillosis in a British soldier has been lately described by Col Mackie Magrou has recorded a case in France in 1916 In the case which I am about to describe the infection was from a lower fungus of the genus "Monilia" which is characterised by mycelial threads which are often branched and which contain spores which may also be terminal

History of the case—D T a Hindu, aged 38 years, and a permanent resident of Bombay, a bill collector by occupation, came with a history of cough and occasional attacks of spitting of blood and irregular fever He could not definitely trace the date of commencement of his illness, but the first attack of hæmoptysis occurred in the month of August 1921 Before this date he used to suffer from slight cough off and on, but this did not interfere with his occupation till the first attack of hæmoptysis took place The cough continued with exacerbations at intervals for the next four months, at the end of which period he began to get irregular high fever He was treated for this by his doctor and the fever abated but did not leave him completely This irregular low fever continued for the next three months, during the course of which he had several attacks of hæmoptysis

With this history one would have expected to see an advanced case of pulmonary tuberculosis I happened to see the patient for the first time in May 1922 He was a muscular, able-bodied young man, and although he said that he had slightly lost weight, still seeing the duration of his illness, he had a good physique and this made me doubt the conclusion I had arrived at after hearing the history, that it was a pure case of pulmonary tuberculosis Physical examination revealed the presence of small patches of consolidation scattered through the lungs on both sides Râles were heard all over the chest No signs of excavation of the lungs were found

The patient was under my observation barely a fortnight when he suddenly developed broncho-pneumonia and died The quantity of blood in the sputum was never great and occasionally the sputum was only blood streaked The sputum when first examined was stained by Ziehl-Nielsen's method and showed the presence of masses of fungous filaments but no tubercle bacilli Smears stained with Gram's method showed that the fungus was Gram positive Fresh sputum was then collected in a sterile Petri dish and it still showed the same kind of fungus and also groups of yeast-like cells The mouth was then carefully examined but there were no patches of thrush in his mouth or fauces The mycelial filaments were more numerous whenever there was more blood in the sputum and they diminished as the sputum became clearer An attempt was made to isolate and identify the fungus which I believed was responsible for the disease Several Petri plates of Sabouraud's medium were inoculated with the sputum; after twenty-four hours numerous large round raised colonies with their centres much elevated grew up, together with the colonies of the many bacterial organisms that were present in the sputum The fungus colonies were of a dull white colour and had a smooth ivory-like surface, and from sub-cultures made from these, a pure growth of the fungus was obtained When touched with a platinum loop the colonies were found to be sticky and dense in consistency, but when some of the water of condensation in the culture tube was even gently splashed on the colonies by shaking the tube, practically the whole of the growth got washed to the bottom of the medium Microscopically the growth consisted of globular yeast-like cells in which only a few short mycelial filaments were present Sugar media were then inoculated and the fungus produced acid and gas in glucose, maltose and lævulose, but there was no change in galactose, lactose, saccharose, mannite, dulcite, and dextrin, it caused no change in litmus milk These sugar reactions are identical with those of Monilia pinoyi, Cast, and I consider therefore that the case was one of pulmonary moniliasis

In conclusion I have to thank Professor Turkhud for valuable help in the preparation of this short paper and Major Higham Dean, Grant Medical College, for permission to have the photomicrographs taken in the photographic department of the College

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A CASE OF OXYURIS VERMICULARIS IN THE VERMIFORM APPENDIX

By W L HARNETT,

M A, M B (Camb), F R C S (Eng),

MAJOR, I M S

K D, Anglo-Indian, aged 26, was admitted to the Presidency General Hospital, Calcutta, on the 23rd March, 1922, complaining of pain after food and morning vomiting He had lived in Calcutta all his life and there was no history of any previous illness of importance

He stated that for the past eight months he had suffered from bilious vomiting every morning on awaking after which he was

comfortable for the rest of the day There had never been any blood in the vomit The bowels were habitually constipated Latterly he had begun to suffer from epigastric pain, coming on half an hour after food and for the past week he had vomited about two hours after each meal, the pain being then relieved There was always a lot of bile in the vomit He had been getting thinner lately, but could not say how much weight he had lost There was no history of venereal disease or of alcohol

The patient was a poorly nourished young man, of a sallow complexion, with a slight icteric tinge of the conjunctivæ There was general tenderness over the epigastrium and the right upper quadrant of the abdomen, but no tumour could be felt The liver edge was palpable, but the dulness was normal to percussion The spleen was not palpable and the tenderness did not extend down to the appendix region The tongue was clean and the temperature normal The thorax was normal The Wassermann reaction was negative The blood count showed R B Cs 5,000,000, Hb 85 per cent W B Cs 5,000 Differential count —Polymorphonuclears 54 per cent large Mononuclears 4 per cent, Lymphocytes 32 per cent, Eosinophils 10 per cent There was no blood or mucus in the stools and no ova of intestinal parasites were found A test meal showed free HCl present and total acidity 0 12 per cent A bismuth meal showed no abnormalities in passage time and no evidence of ulceration, the liver shadow was not appreciably enlarged and moved freely

During the first few days in hospital the patient vomited clear fluid coloured with bile and containing mucus every morning, and complained of pain after all food Washing out the stomach daily relieved the vomiting, but the pain still continued In view of the high eosinophilia, santonin and later thymol were administered and the stools carefully sifted, but no intestinal parasites were passed Various modifications of diet were tried and a course of emetine injections was administered without any improvement The stools were usually somewhat deficient in pigment and on one occasion a clay-coloured stool was passed, after which the icteric tinge of the conjunctivæ became more marked There was no pyrexia at any time The pain never resembled biliary colic and both its site and its relationship to food remained rather indefinite The tenderness however began to extend downwards towards the right iliac fossa, but definite tenderness at McBurney's point was not demonstrable

As the patient had not improved under medical treatment and omission of the daily stomach wash invariably led to an early recurrence of the vomiting, exploratory laparotomy was advised and agreed to

On May 3rd, under ether anæsthesia, the abdomen was opened by an incision just internal to the outer edge of the upper part of the right rectus, with inward displacement of the muscle The gall bladder, bile ducts and pylorus were found to be normal The liver was slightly enlarged, but otherwise normal in appearance The stomach was flabby and atonic, but showed no signs of ulceration The appendix was then examined and found to be free from adhesions, but the distal end bulbous It was removed and the abdomen was closed

On examining the appendix, the mucous membrane was found to be in a state of intense catarrh, there was a fæcal concretion at the distal end and proximal to this a living oxyuris vermicularis was found lying on the mucous membrane

As soon as the patient was convalescent from the operation, salt and quassia enemata with further santonin treatment were administered, to remove any oxyuris still present, but none were passed It is probable that others were originally present, but were got rid of by the preliminary medical treatment

Convalescence was uneventful, the vomiting entirely ceased ordinary food was taken without discomfort and the patient was discharged relieved of all his symptoms, on the 30th of May, 1922

Oxyuris vermicularis as a cause of appendicitis is mentioned in Manson, but is not alluded to in the majority of the text-books of medicine Innes and Campbell (*Parasitology* 1914) in a study of 100 unselected cases of appendicitis, in which the appendix was removed by operation in Aberdeen, found 17 infected with Oxyuris They found that the parasite is usually associated with the recurrent type of appendicitis and practically never with the suppurative type The majority of the subjects of Oxyuris infection of the appendix were between 21 and 24 years of age Rendle Short (*British Journal of Surgery*, No 30, 1920) states that Oxyuris appendicitis is quite common and that he has met with a dozen cases in five years According to this author the clinical picture is the ordinary one of febrile appendicitis, vomiting is a prominent feature and the tenderness over McBurney's point is apt to be rather indefinite

I am indebted to Lt-Col Waters, I M S, Superintendent, Presidency General Hospital for permission to publish this case and also for much valuable advice in consultation over the case

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(*Vide* Presidential Address, British Pharmaceutical Congress 10th July 1918)

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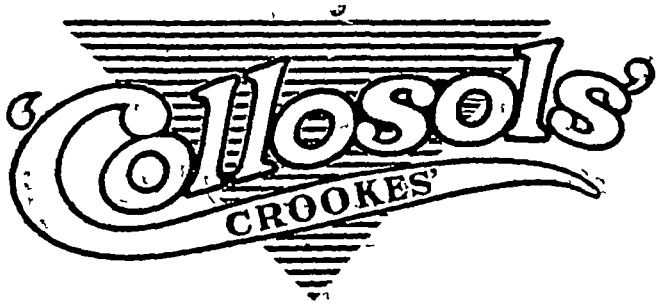
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Indian Medical Gazette
NOVEMBER

THE ROLE OF POISONOUS AMINES

During the past six months five reports have been published which emphasise the importance of poisonous amines in inducing disease and death and it may be well to attempt a review of what promises to be a new chapter in medicine Amines are the end product of proteid digestion or disintegration the sequence of events being the conversion of proteids first to proteoses, then to polypeptides thence to amino-acids and finally to freely soluble and absorbable amines Amines may either exist preformed in the diet—as is the case with the well-known and essential vitamines ; or they may be produced by the action of bacteria or fungi, or even by sterile tissue autolysis either in the gut or in the tissues Once absorbed into the blood stream amines circulate either as amine base or as acid salts To some extent they are dealt with by the liver and there destroyed , partly however they are excreted by the kidneys

The first of the five reports referred to is the remarkable paper by Sir Frederick Mott and Dr T Uno reviewed in our columns in September (p 347) These investigators shew that surgical shock is not merely, as has long been taught, a matter of the patient bleeding to death into his own veins' The essential factor appears to be histamine action Shock is even more marked in cases with extensive muscular injuries tissue lysis and absorption of histamines, than in cases with much hæmorrhage but little tissue injury Shock is due to the condition described by Cannon as exæmia ' Blood stasis occurs in the capillaries generally , plasma exudes through the capillary walls into the tissues , the hæmoglobin index and R B C count rise Chromatolysis occurs in the cells of the autonomic nuclei of the medulla and in the bulbo-spinal motor nuclei Microbial infection may have little or nothing to do with wound shock , the picture presented is that of histamine action

The second and third reports are those recently published in this journal by Major H W Acton, I M S Here it has been shewn that lathyrism, a form of spastic paraplegia common in the Central Provinces of India, is due to absorption of a poisonous amine from certain classes of vetch foodstuff , the amine being the product of enzyme action in the seed during months of high atmospheric humidity and temperature on the proteids of the *dâl* We publish a further experimental contribution to this problem by Majors Acton and Chopra in the present number Secondly the epidemic dropsy of Bengal is also an amine disease , the amine being the product of fungus action on decorticated *balami* rice under similar conditions In lathyrism the amine produces vascular stasis and the lesion results from thrombosis from arterial spasm of the small blood vessels supplying the antero and antero-lateral spinal tracts below the second lumbar root In epidemic dropsy the amine appears to cause increased capillary permeability and a raising of the blood pressure, factors which cause the painful œdema of the disease

The fourth and fifth reports have still to be published in detail but a summary of one of them is given below in the resume of the interesting paper by Major H W Acton, I M S, and Major R N Chopra, I M S, on the pathology of cholera As shewn many years ago by Dr C J Martin the diphtheria bacillus produces its best yield of toxin when grown on a sugar free broth well supplied with oxygen In bacillary dysentery it has long been recognised that bacilli of the Shiga type are far more toxic than are bacilli of the Flexner type On ordinary broth neither bacillus produces any appreciable amount of toxin But if the Shiga bacillus be grown on a broth rich in amino-acids, *e g*, in a broth containing decomposed veal, it yields an abundant supply of dysentery toxin The Flexner bacillus yields very little This Shiga toxin is of the chemical nature of an amine Tested on experimental animals it causes tonic spasm of the uterus, and increase in the amplitude of the contractions of isolated rabbit intestine with irregularity also The clinical symptoms of Shiga dysentery can be produced in animals with this amine Similarly in cholera, the cholera vibrio produces an amine, in the same way as it attacks the amino-acid tryptophane to form indol , and, as shewn below, the symptoms of cholera can be reproduced in experimental animals with this isolated amine

In brief in both Shiga dysentery and cholera everything appears to depend upon the substrate upon which the bacteria act Hitherto we have been accustomed to classify bacteria by their morphological characters In future more attention

should be paid to what bacteria do than to what they are This has long been recognised by agricultural and economic bacteriologists, but its importance has not been sufficiently realised in medicine Whether an attack of Shiga dysentery or an attack of cholera is mild or is very severe and even fatal may all depend upon the characters of the substrate, *i e*, the intestinal contents If abundance of amino-acids is present, *i e*, abundance of the products of proteid digestion, toxic amines will be produced in abundance and the disease will be very severe If the diet has been of such character as to leave but little proteid residues in the intestine the bacteria will produce but little toxic amines, and the disease be of mild character A further and exceedingly important point is the degree of hydrogen ion concentration in the culture medium or intestinal contents That bacteria are exceedingly sensitive to very slight changes in the "pH" of a culture medium is now fully recognised A very interesting finding by Mr C M Hutchinson may be quoted in this connection Working with selected strains of indigo producing cocci this worker found that under identical experimental conditions the same volume of indican-containing substrate when inoculated with the same dose of indigo producing cocci in two vats, one lined with Portland cement and the other with Katni cement, gave a yield of 75 per cent of the theoretical maximal yield in the Portland cement vat, but a yield of only some ten to twelve per cent in the Katni cement tank The only difference between the two vats was that in the latter the presence of free alkalies in the Katni cement had raised the "pH" to such an extent that the bacteria found it difficult to multiply

Thus in diseases of the tropics due to poisonous food principles, to bacteria and even to protozoa there opens up a new field for investigation The bacteria and protozoa concerned may be, and often prove to be perfectly harmless *Entamœba histolytica*, for instance, only produces symptoms in some ten per cent of the persons parasitised by this parasite Under conditions as yet but little understood, however, the entamœba may suddenly wake into deadly activity It is a study of these conditions that is wanted It may be changes in the substrate which determine the severity of many tropical diseases Much further work remains to be done in the study of such diseases, but it is work of a character which may lead to a far better understanding of the diseases concerned and to new and more successful lines of treatment and prevention

THE THERAPEUTICS OF DIGITALIS

By R N CHOPRA,

MAJOR, I M S,

Professor of Pharmacology, Calcutta School of Tropical Medicine

"MEDICINE (Analytical Reviews)" for May 1922 contains an exceedingly valuable review of the therapeutics of digitalis by Dr G Canby Robinson The botanical name *Digitalis purpurea* was first given to the foxglove by Fuchsius in 1542 on account of the resemblance of the flowers to a finger, and their purple colour Although digitalis continued to be used in medicine for centuries it did not really gain the confidence of the profession until the publication of Sir James Mackenzie's recent clinical studies of its action on the heart Certain other drugs have subsequently, and some of them recently been brought into use which have a digitalis-like action, and the group may be considered as the "digitalis group" Of these strophanthus was the first to come into general use and its active principle "ouabain" or crystallised "strophanthus g" possesses all the pharmacological actions of digitalis The mode of action of such other members of the group as squills, apocynum, hellebore, oleander and convallaria has not as yet been fully studied

The active principles of digitalis reside chiefly in the leaves and can be extracted by such solvents as alcohol and water Schmiedberg isolated three active glucosides digitoxin, which is the most active and which is soluble in alcohol but not in water, digitalin, soluble in alcohol, only slightly soluble in water, and occurring more abundantly in the seeds than in the leaves, and digitalein, freely soluble in both water and alcohol, and regarded by some pharmacologists as a mixture of glucosides In addition to these there is a saponin-like substance, digitonin, which is without action on the heart

It is difficult to estimate the potency of digitalis by quantitative chemical analysis, and therefore the method of biological assay has been introduced The frog test has been used by some workers but Eggleston prefers Hatcher's cat method because it is accurate, gives more constant results, has a wider range of applicability and takes less time A "cat unit" is defined as the M L D per kilogramme of cat weight when the drug is injected into the femoral vein and it has been urged that all preparations on the market should have the date of manufacture and the result of biological assay written on the label Stress used to be laid on the rapid deterioration of tinctures by ageing, but it has more recently been shewn that the rate of deterioration does not exceed 1 5 to 2 per cent per annum The infusion of leaves, made without alcohol, remains active for 6 to 19 days under ordinary conditions, and if kept in well stoppered bottles keeps for many weeks even in hot weather

With regard to the actions of the digitalis group Schmiedberg holds that their main action is on the heart, whilst Gottlieb and his collaborators lay more stress upon their action on the blood vessels The introduction of such new methods of cardiac study as the polygraph electro-cardiograph and the measurement of vital capacity, which varies directly with the efficiency of the circulation, has added much to our knowledge The therapeutic and toxic effects of digitalis often appear simultaneously if the drug is given in large doses and the success of digitalis therapy depends on the skill of the physician in recognising the very early toxic effects and in knowing when to stop administration Gastric effects, such as vomiting, are generally the first to appear and should be particularly avoided in the case of patients with signs of cardiac failure Loss of appetite sometimes precedes vomiting and may serve as a warning signal If the drug be continued and vomiting sets in, it may continue for from 2 to 3 days to a week

Vomiting and also diarrhœa are not due to direct irritation of the stomach and intestine but are central in origin, and due to impulses passing up from the irritated heart and its appendages to the cerebrum by way of the sympathetic and to a lesser extent by the vagus There is clinical evidence that nausea and vomiting do not occur until the drug has produced its characteristic effects on the heart The toxic effects of digitalis on the heart consist of premature contractions of the ventricles or extra-systole, depression of conductivity leading to complete heart-block, auricular fibrillation and possibly pulsus alternans this last is due to disturbed cardiac contractibility and has a grave significance from the point of view of prognosis Intravenous injections have been known to produce ventricular fibrillation and sudden death

The therapeutic effects of digitalis are due to —

(1) Increase in the power of contractibility of the heart muscle and consequently increased output.

(2) An effect on the cardio-inhibitory mechanism, increasing the irritability of the centre and making the heart more susceptible to vagus action Some authorities attribute the diminished muscular conductivity to an effect on the cardio-inhibitory centre, others to a direct action on the heart muscle itself

(3) An effect on the blood vessels Digitalis at first dilates but later constricts blood vessels, especially those of the splanchnic area, but not those of the kidney Digitalis cannot be said to be without effect on the blood pressure, although arterial hypertension is no contra-indication to its use.

(4) The effect on the kidneys Experimentally it has been shewn that the effect of digitalis on the renal vessels is different to its effect on the other blood vessels of the splanchnic area. The renal vessels are dilated, whilst the splanchnic vessels are constricted The diuresis which sets in as a result of this is an attempt to re-establish compensation

Cardiac failure results from a variety of causes some of which are more amenable to digitalis therapy than others In auricular fibrillation the auricle stands in diastole, the muscle fibres contract individually one after the other instead of as a whole and this upsets the ventricular rhythm In this condition digitalis slows the abnormal ventricular rate and prevents the ventricles from being tired out. Strophanthus when given intravenously is a powerful remedy in auricular fibrillation with a rheumatic history and may reduce the pulse rate from 160 to 100 or even 80 The slowing of ventricular contraction leads to the contraction becoming more complete although as shewn by the electro-cardiograph, the auricles are not affected. In cases of arterio-sclerosis due to syphilis and where probably a condition of cardio-sclerosis is also present digitalis has less effect Excessive doses of digitalis given to patients suffering from auricular fibrillation are liable to cause complete heart block with a slow, rhythmic bigeminal pulse or coupled rhythm The appearance of these symptoms is an indication for stopping the drug In auricular fibrillation with the auricle beating at the rate of 300 per minute digitalis has proved to be of very definite value Cardiac contractions of abnormal origin such as extra-systoles are of little importance when occurring occasionally, and digitalis should not be used for such cases

In paroxysmal tachycardia digitalis has no effect. In cases of complete heart block digitalis does good, but in temporary heart block it is not recommended Cushney advocates helleborein in heart block, since, although it has a digitalis-like effect on heart muscle, it has no effect on the cardio-inhibitory mechanism. In cardiac failure due to myocardial insufficiency or myocarditis digitalis is of definite value, especially if oedema is present. Pulsus alternans very often disappears under digitalis treatment, though not in old people, and in this condition Windle recommends that the drug should be given till full therapeutic effects are obtained.

When valvular disease of the heart is compensated there is no necessity for digitalis administration but when compensation fails the digitalis group are of great value In aortic regurgitation Corrigan (1832) advised against the use of digitalis on the ground that the lengthened diastole would allow more blood to regurgitate, but this is not the fact and this condition is now recognised not to be a contra-indication In effort syndrome caused by stress of emotion and strain, as in war conditions, digitalis has scarcely any effect and it also fails in hyperthyroidism In some of the infectious fevers, such as pneumonia, digitalis is beneficial, but in diphtheria, where the toxin has in itself a digitalis-like action on the heart, the drug should be withheld

With regard to dosage recent work all goes to show that the customary dose of from 2 to 15 minims is inadequate Recent experimental work has established the average total amount of the drug required to produce therapeutic effects and this total dose may either be given as one large single dose or may be given in divided regular small doses until the amount needed to produce a therapeutic effect has accumulated According to Pardee rapid therapeutic effects are produced when a dose of one minim per lb of body weight is given to an adult in one single large dose Thus to produce immediate therapeutic effects the large, single dose for an adult man of 150 lbs weight should be 150 minims at once and no more for 48 hours, the effects being maintained by giving 15 to 20 minims later 3 times a day If on the other hand only 15—30 minims be taken three times a day it will take 2 to 4 days before the cumulative and full therapeutic results are obtained, as a certain portion will be excreted daily Children under 4 respond more readily to digitalis than do older children, and for the latter a larger dose is required to produce therapeutic effects *e.g.* from 0·29 to 0·48 c.c. of the tincture per lb of body weight as compared with 0·15 c.c per lb for adults

Digitalis alone is readily absorbed from the gut the absorption of strophanthus, squills and convallaria being far more irregular and slower The tincture is absorbed more rapidly than is the infusion, and such expensive preparations as digalen, digipuratum, etc. seem to possess no advantage over the tincture It has been shewn by the electro-cardiograph that a good tincture begins to produce effects 2 to 6 hours after oral administration The digestive ferments have no action on the glucosides of digitalis Intravenous injection of the tincture, deprived of alcohol so as to eliminate any alcohol effect, acts experimentally within 5 to 15 seconds In man however, intravenous injections are dangerous and should only be resorted to in very urgent cases or in cases of persistent vomiting with a failing heart, where the drug cannot be given orally Subcutaneous and intramuscular injections are not advisable, as tissue necrosis may result Rectal administration deserves a trial

Persistence of action is a feature of digitalis therapy and it has been known to produce heart block which lasted for 2 to 3 weeks In the case of digitalis the cumulative action is due to summation of the effects of the amounts absorbed where the absorption is greater than the excretion The effect of a single large dose given intravenously to a cat may however persist for as long as 3 to 4 weeks The rate of elimination of digitalis from the body has not yet been thoroughly worked out When ouabain is injected intravenously it rapidly disappears from the blood stream and is possibly destroyed by the liver

Both tincture and infusion of digitalis are equally efficacious Strophanthus and squills, as well as some of the purified derivatives isolated from digitalis are absorbed from the gut but slowly and irregularly and should not be given by the mouth Ouabain is the most satisfactory product for intravenous use. Tincture of squills is badly absorbed and with it larger doses are necessary, whilst its diuretic action is less than that of digitalis Fluid extract of apocynum causes marked gastro-intestinal irritation and toxic symptoms are seen when even therapeutic doses are administered. Its action on the heart is transient and only lasts for 24 to 48 hours Fluid extract of convallaria is also less

efficacious than digitalis, produces nausea and vomiting and its effects are less lasting

To sum up, the whole essence of digitalis therapy is to so regulate the dosage that toxic symptoms are avoided, whilst, on the other hand the full therapeutic effect is obtained, and this can be done either by giving one large single dose, or by trusting to the cumulative effect of smaller doses The range between the full therapeutic dose and the minimal toxic one is not large, and, although the drug is one of the most valuable in the Pharmacopeia, the indications for its use and the regulation of its dosage are matters for careful study by the practising physician

Current Topics.

The Amine of Cholera.

At a meeting of the Medical Section of the Asiatic Society of Bengal on the 13th of September 1922 Major R N Chopra, I M S read a paper summarising the recent experimental work of Major H W Acton, I M S and himself on this subject during the last six months at the Calcutta School of Tropical Medicine As pointed out several years ago by Dr C J Martin the diphtheria bacillus yields a better toxin yield when grown on sugar-free broth in the presence of oxygen In peptone media the cholera vibrio attacks the amino-acid tryptophane and breaks it down into indol, which gives the characteristic cholera red reaction Experimentally it was found that whereas the Shiga dysentery bacillus produced little or no toxin when grown on ordinary broth, it produced a maximal yield of toxin when grown on veal broth full of proteoses and amino-acids which could be readily converted to amines The cholera vibrio was grown for ten days in veal-peptone broth, the culture being shaken every second day On the 10th day the culture was boiled cooled and filtered The filtrate was now tested experimentally

In guinea-pigs this filtrate caused marked contraction of the isolated uterus The amines in the filtrate were salted out with phosphotungstic acid and redissolved in acetone water and finally two portions were isolated — (*a*) the volatile amine fraction and (*b*) the non-volatile amine fraction, which again consists of histidine, argenine, and lycine fractions which were again separated When tested on the uterus of the guinea-pig the volatile fraction had but little action the non-volatile fraction sent the uterus into tonic spasm and most of its activity lay in the argenine fraction the histidin and lycine fractions having but little effect The non-volatile amine caused tonic spasm even at dilutions of 1 in 125,000 on a uterus suspended in a bath of Ringer's solution Amines may circulate either as amine base or as amine hydrochloride The hydrochloride was found to be ten times as toxic as amine base Amines act in almost infinitesimal dilutions but the yield of amine from one litre of 10-day cholera culture was only 100 mgms of non-volatile amines

On separating out the argenine fraction and retesting it, it was found that this fraction causes slowing, strengthening and stimulation of the heart beat in the perfused rabbit heart It causes a marked fall in blood pressure The kidney volume is at first reduced, but later on increases and, on microscopic section, the subsequent increase in volume was found to be due to increased capillary permeability and inter-tubular œdema The limb volume is a little increased On isolated rabbit gut both volatile and non-volatile cholera amines produce very marked increase of persistalsis, even at dilutions of 1 in 120,000 Acting on the pregnant uterus the amine may even cause miscarriage

Finally these workers were able to reproduce the symptoms of cholera in young rabbits by hypodermic injections of the isolated cholera amine, without the accompanying cholera vibrio Rabbits and other animals are relatively insusceptible to experimental cholera infection but when a dose of 100 mgms of cholera amine was administered to a young rabbit cramps and collapse set in within 20 minutes In an hour the collapse was complete and the rabbit could not rise, and was passing diarrhœic stools At the end of two hours whilst still in a state of collapse the rabbit was killed and its tissues examined The kidneys shewed cloudy swelling and intertubular œdema Sections of the gut shewed engorgement of the mesenteric vessels In the case of a second young rabbit to which only 50 mgms of extracted amine were administered the only symptom was collapse *In brief*, however, the symptoms of cholera can be reproduced by injection of the isolated cholera amines, freed from their causative vibrios Hitherto attention has been concentrated on what bacilli are in future more attention must be paid to what they do under different conditions of environment It is clear that differences in diet and the presence or absence of suitable amino-acids in the gut, readily liable to be broken down into amines may make all the difference between cholera as a simple diarrhœa and cholera as a fatal amine-intoxication An alkaline pH and a free supply of oxygen favour the mass production of the cholera amines

In a discussion on the paper Major A D Stewart, I M S, drew attention to earlier work on amines work which had shewed that amines, which may be fearfully toxic on hypodermic injection, may apparently be harmless on oral administration In reply Major Acton pointed out that amine production and absorption from the gut depend upon several factors Thus —(1) the right amino-acids must be present to be broken down into amines Actually some amines, such as the vitamines, are not merely not harmful but invaluable to the organism The indol red reaction for instance, is best seen when Witte's peptone is used in preparation of the culture medium The constitution of the substrate upon which the vibrios act is all-important the Shiga bacillus for instance produces no toxin at all if the culture broth is free from amino-acids (2) Secondly the pH, or hydrogen ion concentration of the culture medium, is important Some amines are best produced in culture media of acid pH, others under different pH conditions (3) Thirdly the functions and capacity of the liver to deal with poisonous amines must be taken into consideration If the liver be in full functioning activity it may be able to deal with what would otherwise be a poisonous dose of absorbed amine Lastly the normal alkalinity of the blood must be taken into consideration, as amines are far more potent for evil if the alkalinity of the blood be reduced

The recent work by Major Acton and Major Chopra on the toxic amines of the Shiga bacillus and the cholera vibrio throws an entirely new light on the production of toxic symptoms in these diseases and emphasises again the all-important element which the constitution of the substrate (or intestinal contents) play in the production of toxic symptoms It is to be hoped that a further study of these conditions will lead to new information as to the best methods of dealing with bacillary dysentery and cholera

Tube Wells in Bengal.

At a meeting of the Medical Section of the Asiatic Society of Bengal on the 9th of August 1922, Major A D Stewart, I M S Director, Public Health Laboratories Bengal, read a paper on "Tube Wells in Bengal"

Major Stewart first defined certain terms, such as the hydraulic gradient the cone of influence of a well and the limitation of working speed Thus in the Punjab, wells may ordinarily drain the subsoil water over an area with 1½ miles radius In Bengal with a flow of 5,000 gallons per hour the cone of influence drained rarely exceeds 60 feet He then described the silting up of wells and defined the term critical velocity of a well A well silts up if the rate of pumping out exceeds the critical velocity In ordinary sand the critical velocity is half an inch per minute

There are apparently two Ganges' deltas an ancient one and a more recent one. The subsoil water in Bengal flows generally from N W to S E. In section the delta shews clay, sand, yellow sand, and a lower sandy stratum of the first laid delta. At first Norton's Abyssinian tube wells were laid down, but they silted up rapidly. Then strainers were used with an inside perforated tube. Two methods of boring were described —(1) the tube well itself being the bore this pattern does not last (2) an outer tube body which is taken up after boring and replaced by an inside tube and strainer Method (2) is always adopted in Bengal The boring tube has a shoe and in the inside tube is a water jet to loosen the earth This water jet is of great hygienic importance since, if a bad water supply be used for it, it will infect the new tube well water and the infection may take 3 to 4 months to clear In removing the outside tube the space between it and the strainer is rammed with packed sand for 2 feet at a time. If, in carrying this out, the tube is not set at impermeable layers with cement rings or otherwise, the new tube well may become infected by surface waters

With regard to waters obtained in tube wells in Bengal, one may often obtain a perfectly sterile water from the substrata and some tube wells in Bengal do not show fæcal bacilli in 60 c.c. In other instances, as at Budge Budge, the well was contaminated during construction and shewed fæcal bacilli first in 1 c.c., then only in 5 c.c., then only in 10 c.c., and finally became sterile Faults in the substrata may lead to leakage in subsoil water and pollution Some wells were sterile from the beginning more usually the well seemed bad at first, but all infection cleared in 3 months

Chemically the water from such tube wells in Bengal often shewed considerable dissolved solids—up to 400 parts per 100,000 There is much free ammonia and much nitrates The albuminoid ammonia may be taken as a test of purity Hardness varied from 120 parts at Budge Budge to 25 parts per 100,000 at Naihati in the same strata The Calcutta area shewed great variations The iron content is important, the Chittagong supply contained so much ferrous salts as to be useless for domestic purposes without treatment.

As to cost, a small tube yielding 1,000 gallons per hour and worked with a hand pump could be laid down for Rs 1,500 Roughly, cost could be measured at Re. 1 per gallon per hour a yield of 5,000 gallons per hour being secured for an outlay of Rs 5,000

Dr T W Bishop spoke of the use of tube wells during the building of the Ganges' bridge. Cholera broke out in epidemic form among the labour force and the surface wells were contaminated Tube wells were put down at the railway stations and, although cholera remained in the villages for some time, yet even the villagers became accustomed to using the tube wells on the railway, and the disease was stamped out in 2 years Tube wells had a future before them in India. He advocated the Colonial Lifting Force Pump Well, and mentioned that the E B Railway were now putting down many such tube wells

The Great Drought of 1921 Chlorination of Impure Water Supplies.

By Sir ALEXANDER HOUSTON

The Hospital and Health Review June 1922 Page 253

In this article Sir A Houston discusses the water drought of 1921 in England and the attendant dangers produced by shortage and by the use of contaminated supplies used to augment the ordinary supplies Few apparently realised the gravity of the situation at the time.

As a water purifier in an emergency chlorination has no equal and its use is discussed under the heads of bacteriological results, epidemiological considerations, dosage, and taste, methods of administration and economical considerations. For India no better method has been found but ignorance of correct methods of usage, objections against any medication whatever of drinking water, and overdosage have resulted in prejudice against its use. No doubt during the war it was inclined to be overdone, an objectionable margin of safety was added and often from the early morning cup of (chlorinated) tea, one slaked one's thirst throughout the day with a series of nauseous draughts "Who was the bloke that invented this 'ere chlorination stunt?' one of our Tommies asked The reply is alleged to have been "Some say 'Orrocks and some say 'Ouston, but I think it must have been the—Kaiser" The dosage then is important. We wish to kill off only the non-sporing microbes of water borne disease, judged by the destruction of the *B coli* in water It has lately been asserted that the spores of *B welchii* are capable of producing epidemics of gastro-intestinal disorders This is an interesting speculation and one which requires to be kept in mind

Houston, in another paper ("B Welchii, Gastro-enteritis, and Water Supply" *Engineering News Record*, Vol 87, No 12) has dealt with this question at greater length and comes to the conclusion that such cases as have been recorded probably arose out of imperfect chlorination and were not due to spores The question is undecided, however, and more observations are required to clear it up

What dosage is necessary? It varies with the variety of water and with the strength of the bleaching powder For those near laboratories the available chlorine can be found and information given, but the worker in India has often no such aid, and even now there is great uncertainty amongst medical men in the country as to how to apply the correct dosage. We therefore venture to give the following simple method based on *Sims Woodhead's* original method Make a 1 in 2,000 solution of the bleaching powder to be used Take a series of 4 or 5 glasses and into each put 500 c.c. of the water to be chlorinated, then add of the bleaching powder solution 1 c.c. 1.5 c.c., 2 c.c., 2.5 c.c., and 3 c.c., respectively to each glass. Leave for 15 minutes To each add a grain of powdered Potassium Iodide and a few drops of cold starch solution (made by boiling a pinch of starch in a test tube and allowing to cool) The glass which shows the first trace of blue colour is the one showing the correct and sufficient dosage and the number of c.cs of solution which was added to this jar gives the number in lbs of bleaching powder necessary for 100,000 gallons of water, and this number multiplied by 07 would give the amount in grains of bleaching powder necessary per gallon The test can be done daily

Where a laboratory is available and the question is one of a large water supply, the bacteriological test for the destruction of *B coli must* be done. There should be no lactose fermentors present in 100 c c. The avoidance of taste is a question to which Sir A Houston has given much attention, and no doubt this has been one of the obstacles to the spread of the use of chlorination. There are two main tastes, one of chlorine and the other *iodoformous*

The chlorinous taste is usually due to faulty dosage (overdosage) and can be avoided by reducing the dose, or by dechlorinating with sulphites or SO_2 gas The iodoform taste is usually found in a relatively pure water, say one that has been filtered and to which a relatively small dose of bleaching powder has been added This is a more difficult problem to tackle. It can sometimes be remedied by increasing the dose somewhat, and then if necessary dechlorinating In London potassium permanganate has been used to remove the iodoform taste with success The quantity found necessary was from 2 to 8 lbs per million gallons. This may fail however in a water having very little organic matter

The sanitarian who can use bleaching powder to give a safe water without producing taste or nausea is doing a great service to his community

Chlorination of water may also be effected by the addition of alkaline solution of hypochlorite (chlorogen), or by liquid chlorine as in the Wallace

Tearnan and Paterson plants The production of relatively stable hypochlorite solutions by the electrolytic cell promises to be an easy method of producing a good water disinfectant

The prevention of water borne diseases by chlorination is still a question with which every practitioner in India should be thoroughly acquainted Emergencies here are the rule and not the exception Not only this but many experts now hold the opinion that to ensure perfect safety at all times, a water should be sterilized (by chlorination, *e g*) before delivery to the consumer, the filtration system being considered to be largely a clarifying agent The importance of the study of chlorination is therefore important.

The Filter-Passer of Influenza

By M H GORDON, C M G

Lieut-Colonel, R A M C,

Journal of the R A M C, July, 1922 · Page 1

Colonel Gordon's great authority and the beautiful micro-photographs which accompany this paper go far to make it an exceedingly important contribution to the study of the true micro-organism of influenza He first reviews the previous literature on experimental influenza Thus Blake and Cecil tried to raise the virulence of Pfeiffer's bacillus by passage through eleven white mice in succession and found that instillation of the reinforced bacillus into the nose and throat of monkeys gave rise to a disease resembling coryza, but characterised by absence of fever In contrast to these experiments, Yamanouchi, Sakakami, and Iwashima sprayed filtrates from influenzal sputa into the throats and nares of healthy persons and of influenza convalescents the non-immunes developed influenza, the convalescents did not The filtrate was also infective when given subcutaneously Cultures of Pfeiffer's bacillus, whether pure or admixed with the other micro-organisms usually present in influenzal sputum, gave negative results In 1918 Gibbson, Bowman, and Connor succeeded in reproducing the symptoms of influenza in monkeys, rabbits and mice by inoculation with both filtered and unfiltered influenzal sputa In Noguchi medium they were able to isolate a filter passing "micro-micro-organism" which also gave rise to symptoms of the disease on injection into animals Bradford, Bashford and Wilson recorded similar observations Olitsky and Gates shewed that if unfiltered influenzal sputa be injected into the trachea of rabbits a leucopenia occurs, with symptoms of pulmonary hæmorrhage, emphysema and œdema They were able to carry the strain through 15 consecutive rabbits in series Controls from cases of ordinary coryza were negative also experiments with influenzal sputa from cases of more than 48 hours' duration Similar results were obtained from influenzal sputa which had been filtered through a Berkfield filter. They emphasised the importance of the pH reaction of culture media in the search for this filter passing organism In Noguchi medium with a pH of 7 8 they cultivated an anærobic filter-passing micro-organism, and finally obtained colonies under anærobic conditions on blood agar plates Rabbits treated with this organism became immune for 14 months to injections of influenza sputum and complement deviation tests were positive

Colonel Gordon's material was obtained during a sharp outbreak of influenza among the nursing staff at Barts Having obtained influenzal sputa from four nurses during the first 36 hours of the attack it was filtered through filter paper and then through a Berkfeld filter, the filtrate was grown in Noguchi medium with a pH of 7 8 control tubes being uninoculated media, and inoculated tubes heated to 55°C Between the 4th and 6th day the controls shewed no growth but in the other tubes a cloudiness appeared near the bit of rabbit kidney in the medium Films taken from the cloudy area shewed a "micro-micro-organism" about 0.2 mu in diameter staining purple to red with Giemsa's stain and Gram negative A similar filtrable organism was also obtained from vaccine lymph

For the demonstration of the virus in influenzal sputum the author recommends fixation of air dried cover slips for half an hour in a mixture of equal parts of absolute alcohol, acetone, and chloroform, followed by half an hour in absolute alcohol, and then for a few minutes in one per cent acetic acid The fixed film is then left staining over night in 1 in 400 Grubler's methyl blue, and finally washed Where other methods fail two fixed films may be warmed, one in 1 per cent acetic, and the other in 1 per cent NaOH washed in water and then alcohol and stained by carbol fuchsine at 55°C In cultures the organism is present in immense numbers so much so that the author recommends diluting the culture 500 times with distilled water before preparing films and adding stock staphylococcus, in order to aid in focussing

Colonel Gordon's paper is a valuable contribution to our knowledge of filter passers It is a pity that the work recorded does not mention controls with non-influenzal sputa or experimental work on animals or man, but a good case is made out for the existence of two distinct organisms, one Pfeiffer's bacillus which appears to be associated with a non-febrile coryza and the other a filter-passing virus, the true micro-micro-organism of epidemic influenza

Hydrogen Ion Concentration.

By C W O BUNKER

U S Naval Bulletin, June, 1922 Page, 973

This is a useful and clear description of a subject of ever increasing importance to-day in medicine For the ordinary reader most papers dealing with "pH" are either too cursory or too technical whereas Lieut-Commander Bunker presents the essence of the subject in simple language

Solutions are not such simple matters as one is wont to believe Thus in a normal aqueous solution of HCl at 18°C, 84 per cent of the H and of the Cl ions are dissociated whilst in a corresponding acetic acid solution only 1 4 per cent of the acid is dissociated Even chemically pure water contains H and OH ions in a state of dissociation At 21°C pure water contains $1 0 \times 10^{7}$ of a gramme of free Hydrogen ions per litre and this may be mathematically represented by saying that the "C_H" (or hydrogen ion concentration) is $1 0 \times 10^{7}$ Such negative figures, however, are very difficult to deal with in practice, and therefore the potential of H ion concentration is taken as standard, rather than the actual H ion concentration itself The H ion concentration-potential or "pH" is the decimal logarithm of the reciprocal of the CH in the case of water pH = 7 0, and a standard of pH = 7 may be taken as neutrality a pH of less than 7 being considered an acid solution relative to water, and a pH of more than 7 an alkaline one and this with reference, not to the actual acidity or alkalinity on ordinary chemical titration, but with reference to the potential of concentration of free H ions present

Of methods for determining the pH of a solution the most accurate one is the electrometric one, which involves delicate and costly apparatus In most laboratories therefore colorimetric methods are used, based upon standards which have been electrically tested The simplest technique perhaps is to dialyse 2 c c of the fluid to be examined against 5 c c of sterile normal saline, recently boiled to free it from CO_2 to add to 2½ c c of the dialysate three drops of a colour indicator and then to match the colour by making experimental mixtures of N/15 solutions of pure acid potassium phosphate and of disodium hydrogen phosphate with the same indicator added Or a series of different colour standards may be made with the same two solutions plus indicator and the colour of the dialysate plus indicator matched

The author gives a useful table showing the pH of different body fluids: gastric juice from 0·9 to 1·6, urine 6·0, cow's milk 6·7, saliva 6·9, human milk 7·1, blood 7·4, pancreatic juice 8·3, etc. 'Living cells," as shewn by Clark, 'are dependent upon the maintenance of a strictly limited H ion concentration in their environment for the normal performance of their functions" Thus normal blood has a pH range of from 7·3 to 7·5 and life is incompatible with any blood pH below 7·0 or above 7·8. Whilst the pH of excretions may vary widely that of the blood and tissues must be kept strictly at its own proper level or illness and even death may result. This is accomplished by the use by the blood and tissues of "buffers"—substances such as phosphates, bicarbonates, proteins, etc.,—which tend to nullify the effect of the addition of acid or alkali From the point of view of maintenance of health the body fluids and tissues must keep within a limited pH range and the investigation of the pH changes of the blood *in different diseases is now a matter of enquiry in many* laboratories throughout the world

This, however, is not all Bacteria each have their own optimum pH range for growth Hence the importance of pH determinations to the bacteriologist. The slightest alteration in the pH of a culture medium may make all the difference between a luxurious growth of an organism and its death. In protozoology each of the intestinal protozoa has probably its own favourite pH range and the investigation of the range most suitable to each may lead the way to their culture on properly *prepared artificial media* Whether, for instance, *Entamœba histolytica* thrives best at a *given* pH state in the mucosa of the colon is a point worth investigating In brief the investigation of 'pH" opens up a vista of new fields of medical enquiry Nor is this all—plant distribution is correlated with the pH of the soils concerned *enzyme action in the human* body, digestion, autolysis of tissue, and the whole host of glandular activities in the body have each, probably, their own optimum pH whilst such industries as *tanning, and the manufacture of foodstuffs* are beginning to realise the importance of the matter "A clear understanding of the meaning of H ion concentration has become necessary to any medical man who endeavours to comprehend the metabolic processes occurring in the human body To the bacteriologist and other workers with manifestations of vital phenomena it is indispensable."

The Spread, Probable Mode of Infection and Prophylaxisaxis of Leprosy

By Sir LEONARD ROGERS

British Medical Journal, 24th June, 1922. Page 987

This paper is typical of Sir Leonard Rogers' work It would be hard to find elsewhere so much information in so short a space. The author brings together in one short, masterly review, the whole world history of leprosy with profuse data with regard to the method in which the infection spreads Beginning with the fact that leprosy was indigenous in Egypt and India about 1600 B C the author traces the world history of the disease shewing how its incidence in England was reduced by the famine of 1315-16, the Black Death of 1349, and, more than by any other factor by the establishment of the mediæval leper hospitals, and ending with the 1853–78 epidemics in the Sandwich Islands, New Caledonia and the Marquesas Isles The theory of hereditary transmission of leprosy is now universally discredited the real facts being that the younger the person at risk the more susceptible he is, and that most of the *so-called* hereditary cases are cases where the infection has been acquired by children of lepers owing to their repeated exposure to infection after birth. The epidemics in Oceania alone negative the view that leprosy is mainly or solely an hereditary disease

Despite the unfortunate findings of the Indian Leprosy Commission of 1891 it is now well established that leprosy is a communicable disease The fish eating theory of Sir Jonathan Hutchinson may now be regarded as merely an historical curiosity, since the discovery of the lepra bacillus by Hansen in 1874 disposes of it Although leprosy is a world-wide disease yet certain well marked conditions favour its spread the principal ones being overcrowding—which accounts for the disease being common in both Iceland where cold compels close association of persons in small houses, and in the slums of Calcutta sociability and crowding at festivals absence in many tropical communities of all fear of the disease, and tolerance of lepers in the community, sexual promiscuity in some instances, and such customs as using the same dish or smoking a common pipe. Very high leprosy incidence is only met with in the tropical zone, and there only in places with a high rainfall such as 60–80 inches per annum and a hot, moist climate Thus whereas French Guinea shews an incidence of only 5 per mille, the hot damp climate of the Ivory Coast has an incidence of 61 per mille, whilst the Marquesas Islands head the list with an incidence of 67 per mille *In newly attacked countries group* infections are the rule a typical case being the Louisiana outbreak of 1866 where a French woman was the first leper, and the subsequent cases were three of her four sons, one of her two daughters, a nephew, a young woman who nursed her, and a young man who slept with one of the infected sons,—all attacked within a few years

Passing from the general to the particular, Sir L Rogers next gives a valuable table of the probable source of infection in 700 collected cases of leprosy, as follows —

Table of 700 Recorded Cases of the Probable Source of Infection in Leprosy

Mode of Infection	Number	Percentage.	
Cohabiting	43	6·14	18·28
Conjugal	85	12·14	
Room	35	5·0	39·84
House	180	25·7	
Bed	64	9·14	
Attending on lepers	139	19.87	19·87
Leper's playmate	23	3.28	19·42
Close association with leper	113	16·14	
Wet nurse	8	1·14	2·59
Wearing leper's clothes	3	0·43	
Vaccination	4	0·59	
Inoculation from leper	3	0·43	

Here the evidence for household infection is overwhelming no less than 40 per cent. of cases coming into this group Conjugal infections are not as common as might be expected partly because of the increased resistance to infection after the age of 30 If a percentage of 9·14 of cases, persons who had occupied the same bed as a leper, be added to the figures for conjugal infection, the percentage of bed infections is 27 per cent Cases of infection from wet nurses are also of interest, as throwing light on the incubation period of the disease.

In a number of cases direct inoculation accounts for the disease, and instances are cited of children infected after pricking themselves with the same needle, leprosy conveyed by arm to arm vaccination, medical men who have become infected from operating on lepers, and of leprosy conveyed by wearing the *unwashed* clothes of a leper Lepra bacilli have been found in vaccine vesicles and acid fast bacilli by Lebœuf in the skins of 7 out of 29 healthy persons living with lepers The frequency with which anæsthetic leprosy appears first in the lower limbs in bare footed races is a further point in favour of direct inoculation infection The role of biting insects has hitherto hardly been investigated but direct inoculation of abrasions of the skin and mucous membranes seems an almost certain mode of infection

Turning to prophylaxis Sir L. Rogers insists on the removal from contact with lepers of all young persons under 20-30 years of age, and especially of children,

who are very susceptible. Much mutilated and old standing anæsthetic cases are comparatively innocuous although they constitute the majority of cases in asylums The really infectious cases are tubercular, and mixed cases with breaking down sores excreting myriads of lepra bacilli The relative failure of some segregation experiments is explained, partly by laxity in enforcement of the rules, partly by the discovery of long standing hidden cases In Norway a policy of voluntary isolation was commenced in 1856, was followed by compulsory isolation in 1885, and by 1900 the number of lepers in the country was only 6 per cent of the former figures

Until recently leper asylums were homes for incurables The introduction of new and more efficient treatment however renders the prospect more hopeful In time leper asylums may become, not asylums for incurables but hospitals for the cure of the disease Once this is accomplished the advanced and hopeless cases will die out, the non-infective old standing anæsthetic cases will constitute no danger to the community whilst recent and tubercular cases will come voluntarily for treatment and cure thus rendering it possible in the future to stamp out leprosy even in tropical countries

The Rockefeller Foundation A Review for 1921.

By GEORGE E VINCENT,

President of the Foundation

It is impossible for the medical man in India, working in an atmosphere of limited resources, financial stringency and ruthless "economy"—even in matters which affect the health and well-being of millions of people—to read this admirable review without feelings of envy The "Rockefeller people" are out to make good Their summary of expenditure for 1921 alone is emblematic of the whole aim and scope of their work on medical education 4,119,261 dollars, on public health 2,133,820 dollars, on miscellaneous payments, chiefly in redemption of pledges in aid of various relief administrations, colleges, journals, etc, 1,191,484 dollars, on administration 185,357 dollars In other words medical education stands—of necessity—first public health and the creation of a "sanitary conscience"—(to quote Dr Andrew Balfour's delightful term)—second, grants-in-aid third

It is impossible to review this beautifully illustrated and well written brochure of 59 pages The opening of the Pekin Medical School with 67 on the teaching staff, 140 students as a commencement, and 225 beds is a mere incident in a year's activities of the Rockefeller Foundation But beyond and throughout all the Rockefeller Foundation activities lies a very serious purpose the awakening of public interest in matters of public health and preventive medicine Thus their vigorous anti-hookworm campaign in many tropical and subtropical countries is not merely an expenditure which will yield the quickest and most immediate return in improved conditions of public health and sanitation it is the readiest and most dramatic way in which public opinion may be awakened to realise the value of preventive medicine, sanitation and disease control Last but not least the Rockefeller aims avoid any tinge of pauperisation the Foundation is out to help not those who cannot be helped but those who are prepared to co-operate Thus the special tuberculosis campaign in France, which up to the end of 1921 had cost two million dollars, has led to the founding of 85 departmental and over 300 local committees and a renewed interest in the anti-tuberculosis movement in France itself "It is hoped to stimulate government and voluntary agencies to adopt this system on a national scale and to support it as adequately as circumstances would permit Everything considered the response of the French people has been remarkably gratifying" Control, direction, example and leadership are the aims of the Rockefeller Foundation to which one must add an entirely selfless and absolutely disinterested and sustained effort on a heroic scale for the betterment of world-wide conditions

The Local Application of Tuberculin.

By DR J CROCKET, MD, DPH,

British Medical Journal, 29th April, 1922 Page 679

THIS paper records the successful application of tuberculin locally in the form of an ointment or liniment, a form of treatment which the author especially advocates for tubercular glands, lupus and abdominal tuberculosis Four cases quoted are a case of massive glands on both sides of the neck almost cured in five months, a case of pulmonary tuberculosis with spinal and joint tuberculosis greatly benefited and with marked increase in weight, a case of extensive involvement of the glands of the neck with pulmonary infection where the glands became impalpable in six months, and a third case of glandular infection cured in six months The author recommends that the strength of preparation used should be studied for each individual case, and malaise or fever should never be induced Using Koch's old tuberculin T or P T or equal parts of both, four strengths are made up with anhydrous lanolin 1 in 4, 1 in 3, 1 in 2, and equal parts For tubercular glands a piece of the weakest ointment about the size of a pea is rubbed in locally, and the *munction* repeated every fifth day, the strength of the preparation used being by degrees changed In pulmonary and abdominal tuberculosis the author uses 1 to 5 minims of tuberculin added to 1 drachm of liniment Camphoræ Co and the liniment is applied locally every fifth day, the strength of preparation used being as before gradually increased, and the application followed by wearing a binder or belt. The author reports that out of hundreds of cases treated none has been the worse for the treatment at any time and advises the method as a safe one for tuberculin administration

Tropical Ulcer in Native Mine Labourers on the Witwatersrand.

By SIR F SPENCER LISTER,

and

H Q F THOMPSON

Publications of the S African Institute for Medical Research No XIII 1921

THIS is an interesting paper confirming the growing volume of careful observations which shew that tropical ulcer is, in reality, Vincent's disease, but affecting, not the mucous membranes, but the subcutaneous tissues Conditions on the Witwatersrand clearly parallel those in the Assam tea gardens, where seasonal epidemics of the disease cause serious economic loss to the industry by laying aside labouring coolies for weeks and months at a time

Clinically the disease appears always to begin as a traumatic lesion The ulcers are, as a rule, solitary and usually situated below the knee, on the anterior surface of the leg, the dorsum of the foot, over the malleoli or in the area overlying the Tendo achillis Sometimes from 2 to 5 ulcers may be present, either on the same or on different limbs Usually the ulcer is deep and crateriform the base is covered with greenish yellow pus, often of a fibrinous character the edges are frequently thickened and undermined The ulcers are intensely painful and have a very fœtid odour Tendons are frequently exposed and bone sometimes eroded

Seventy-three cases were examined bacteriologically, and 40 of them culturally Attempts to infect animals were unsuccessful *B fusiformis* was found in 38 cases but Vincent's spirochæte was found in only 9 of these cases This corresponds with the findings of Fox in Naga sore in Assam, where it was found that whereas

the fusiform bacillus infection persists, the period of infection with spirochætes was only present during the earlier phases The authors failed to cultivate the *B fusiformis*, although using anærobic technique, but they do not appear to have tried Semple's serum-agar plate method whereby colonies can be obtained in the depths of a Petri dish completely filled with the culture medium Of 31 cases cultured 16 shewed associated hæmolytic streptococci, 3 gave *B proteus*, and 4 *Staphylococcus albus* The Weil Félix reaction was negative and the Wassermann reaction negative in 11 out of 12 cases examined

Histologically sections of the ulcers shew granulation tissue of the ordinary type at the base of the ulcer with polymorphonuclear infiltration in the superficial layers More deeply lymphoid and plasma cells dominate the picture Both below the floor of the ulcer and for a considerable distance beyond its edges are seen streaks and foci of mononuclear cell infiltration, showing how the inflammatory process extends along the lymph channels and tissue spaces

With regard to treatment, the authors note that the large number of different remedies used indicates the comparative uselessness of all They find that Novarsenobillon, used locally either as a powder or in solution, gave as good results as did excision or curetting of the ulcers Where bone was involved surgical measures were necessary in all cases

The extent to which tropical ulcer may be responsible for economic loss is indicated by a record of 4,000 working days lost by 22 infected mine labourers

The Prognosis in Mental Disease.

By H R. RUTHERFORD,

Irish Journal of Medical Science, April 1922, p 65

THIS paper presents an interesting analysis During 1919 the number of patients discharged as cured from Irish public asylums was 1,347 or 37 8 per cent. A five year analysis at St Patrick's hospital gave an average recovery rate of 48 4 per cent for men and 53 1 for women Of the factors concerned in prognosis age is an important element, the best period being 15-19 years and the worst 25-34 years—the latter probably owing to the incidence of dementia praecox at this age. The age period 48-57 years is exceptionally favourable, and a number of single-attack, accidental insanities occur in this period which are permanently recovered from Duration of illness is a second factor of 1,347 recoveries 1,067 were discharged within a year of admission to the asylums Of different types of insanity, states of depression shew the majority of recoveries, although there is often great difficulty in maintaining general bodily health Dementia praecox, general paralysis and states of depression in senile subjects are, however, unfavourable. Of patients with states of excitement 56 recovered out of 157 The acute febrile type is favourable if the patient can be sufficiently nourished Maniac-depressive insanity is the rarest type in public asylums and with this rarity goes the small number of recoveries 15 out of 157 recoveries

The author dwells upon the importance of heredity in insanity some 50 per cent. of patients giving a positive hereditary history and another 20 per cent. being regarded as suspicious In some 52 per cent of these cases recovery takes place, but recurrence is perhaps the rule. An important element in such hereditary tendency appears to be hypo-thyroidism, and in early cases thyroid administration is often of benefit. Tuberculosis, asthma and malignant disease are also often associated with a hereditary tendency to insanity Supra-renal administration is sometimes of benefit.

The Normal Pulse Rate in Cantonese Students

By W W CADBURY, M.D

China Medical Journal, March 1922. p 170

THE author quotes several interesting series of figures on pulse rates at different ages among healthy persons in the tropics and temperate zones, respectively Gould from a large study on healthy American soldiers gave an average rate for white troops of 74 8 According to Mackenzie the normal pulse rate varies from 70 to 90 per minute with an average of 78.9 in the standing position, 70 5 sitting, and 66 6 lying down Howell gives an average of 70 for adult men and 70 to 80 for adult women With regard to tropical conditions opinions appear to vary Castellani and Chalmers state that in Europeans coming to the tropics there may be at first a slight increase, but that after acclimatisation the pulse rate becomes that of temperate zones The author sent out a questionnaire to physicians working in China and from a collection of statistics obtained an average rate of 81 per minute for adult healthy Chinese males In addition to this 932 Cantonese students were examined after excluding all others who might be suffering from any illness The pulse was counted with the student sitting quietly at a table, maximum, minimum and average rates being recorded From observations on 347 students between the ages of 17 and 23 the author obtained an average figure of 80 6 per minute He considers that there is evidence that the pulse rate is distinctly higher among residents in the tropics than amongst inhabitants of the temperate zones Huggard stated that Greenlanders are said to have a normal pulse rate of only 30 to 40 beats per minute The factors which might account for an increased rate in the tropics are mentioned

ANNUAL REPORTS.

EXTRACTS FROM THE ANNUAL REPORT OF THE PUBLIC HEALTH COMMISSIONER WITH THE GOVERNMENT OF INDIA FOR 1920

SECTION I

European Army of India

INFLUENZA

THE disease rarely appeared in an epidemic form Sporadic cases occurred throughout the country, the incidence being higher in the Southern than in the Northern Army

The bulk of the cases at Bombay occurred in the months of January and April, when mild epidemics existed in the city

At Rawalpindi 128 out of 155 cases were admitted to hospital in the months of April and May

The type of disease was everywhere mild

CHOLERA.

THERE were 2 admissions for cholera during the year with no deaths, giving ratios of 0 03 and *nil*, respectively, compared with 0 4 and 0 9 in 1919 The admission ratios for the quinquennial periods 1910—14 and 1915—19 were 0.3 and 0 6, respectively

Both cases occurred in the 1st Battalion, Black Watch, at Allahabad in November within five days of each other In the absence of prevalence of the disease in the station or the neighbourhood, it was presumed that infection was derived from contact with a carrier in the city The cases were mild

SMALL-POX.

ADMISSIONS, deaths and their ratios Figures for 1920 —

Actual admissions—24, ratio per 1,000—0 4, actual deaths—4, ratio per 1,000—0 07

No station was particularly affected

The deaths occurred at Quetta, Hyderabad (Sind), Poona and Calcutta.

Of the four fatal cases —

One had never been vaccinated.

One had been unsuccessfully vaccinated in childhood

One had been successfully vaccinated in infancy and unsuccessfully 15 months prior to the onset of the disease.

One had been successfully vaccinated during the incubation period of the disease.

ENTERIC GROUP OF FEVERS

ADMISSIONS during the year were 262 with 26 deaths, giving ratios of 4 6 and 0 45, respectively

The highest number of cases occurred in the following stations —

Stations	Cases	Deaths	Stations	Cases	Deaths
Quetta	21	1	Multan	12	1
Rawalpindi	20	2	Poona	9	1
Lucknow	14	1	Jhansi	8	
Meerut	14		Campbellpore	8	
Nasirabad	13				

The state of inoculation of the British Army in India as shown by the half-yearly census taken on December 31st, 1920, was as follows —

——	Officers	Other Ranks
Total number of troops present at census	3 136	57 332
Number not inoculated	140	723
Number inoculated —		
(*a*) Under 12 months	2,049	44 136
(*b*) Over 12 but under 24 months	740	11,293
(*c*) Over 24 months	217	1,180
Primary inoculations during previous half-year	24	2,261
Re inoculations during previous half year	419	17,177

Enteric Convalescent Depôts—The work of these was continued during the year

Percentage of carriers to cases (excluding the double infection) *B Typhosus* 3 65 per cent. (Fæcal 2 50, Urinary 1 15) *B Paratyphoid A* 11 17 per cent (Fæcal 9 80, Urinary 1 37) *B Paratyphoid B* 7 77 per cent (Fæcal 7 25, Urinary 0 52)

MALARIA

As usual this disease was the greatest cause of sickness and inefficiency amongst British troops in India, though there was an appreciable decrease in the incidence when compared with that of the previous year During the year the admission and death ratios were 176 6 and 0 42, respectively, compared with 217 8 and 0 74 in 1919 The actual admissions in 1920 were 10,122 and deaths 24 Malaria accounted for 16 5 per cent of the total admissions and 6 2 per cent of the total deaths

The admission ratio for the Northern Army was 195 1, that for the Southern Army 157 4

Bombay and Colaba—The year 1920 was a bad one on account of the failure of the monsoon which allowed mosquitoes to breed in puddles between showers The unit showing the highest incidence was located in the Old Town Barracks, which are obsolete and situated in a very malarious quarter of the town The British personnel was moved to Colaba, leaving only night duty men in these barracks, with a marked beneficial result on the incidence in the garrison Arrangements were made for single control of anti-mosquito work in the future at a conference at which the naval, military and civil authorities were represented About a third of the total admissions were stated to be relapses

Delhi—The majority of the cases originated in the Fort, where the old dark buildings harbour innumerable mosquitoes, though there are no breeding places in the precincts There are numerous followers living and working in the Fort itself, and the Indian city with a highly infected population is in close proximity The mosquitoes breed in the Civil Darya Gunge and the swamp which results from the overflowing of the old Jumna river during the monsoon, both in the immediate neighbourhood of the Fort The civil authorities, in their *anti-mosquito* campaign, drained the Bela, as far as possible, so that water did not stand for any great length of time, levelled the ground outside the Fort and cut down the grass and undergrowth with such success as the rapid growth of these would permit The garrison of the Fort was changed every month and all possible prophylactic measures enforced

Anopheline mosquitoes were found at New Cantonments but the incidence of the disease was small The Kingsway Camp was not occupied during the malaria season

Rawalpindi—Anopheline mosquitoes were active from July to December, their only breeding grounds of importance being the permanent water in the Topi Park and the river Leh Most of the British troops in the station were unaffected by malaria up to July having arrived in India after the 1919 malaria season, but by the end of September they were heavily infected In November a battalion arrived from Parachinar heavily infected with malaria Active anti malarial measures were carried out, specially with regard to collections of water in the Topi Park, but in spite of all efforts the incidence was very high This was partly due to the close intermingling of British and Indian personnel, which is a marked feature of this station, and partly to the arrival of the heavily infected battalion from Parachinar

Deolali—Over two-thirds of the cases were relapses, occurring chiefly amongst men arriving from other stations for demobilisation

Peshawar—There was a marked decrease in the incidence of the disease which was attributed to the small rainfall during the year

Secunderabad—The decrease in the incidence of malaria is very striking the admission ratio being 965 2 per 1,000 of strength in 1918, 275 4 in 1919 and only 36 2 in 1920 The actual admissions in 1920 were 91 of which only 36 were fresh infections

This satisfactory improvement is attributed to the drainage scheme carried out in 1918 and an energetic anti-mosquito campaign aided by a very dry season

At 82 hospitals attempts were made to distinguish between fresh cases and relapses In all 7,963 cases were analysed with the following results—

Fresh cases	5 412	= 67 96 per cent
Benign Tertian	3 116	= 57 57 ,,
Malignant Tertian	774	= 14 28 ,,
Quartan	3	= 0 06 ,,
Mixed infections	29	= 0 54 ,,
Diagnosed clinically	1,491	= 27 55 ,,
TOTAL	5 412	
Relapses	2 551	= 32 04 per cent
Benign Tertian	1,584	= 62 09 ,,
Malignant Tertian	436	= 17 09 ,,
Quartan	5	= 0 20 ,,
Mixed infections	24	= 0 94 ,,
Diagnosed clinically	502	= 19 68 ,,
TOTAL	2 551	

The majority of the mixed infections were combinations of benign and malignant tertian malaria

SANDFLY FEVER

THERE were 5,263 admissions with no death, the admission ratio per 1,000 being 91 8 This is a disease of Northern India only 160 admissions having occurred in the Southern Army

Of the geographical groups, No VII (North-West Frontier Indus Valley and North-West Rajputana) accounted for 3,329 cases

The following stations in this group had the highest number of admissions —

—	Peshawar	Landi Kotal	Nowshera	Risalpur
Actual admissions	1 609	1,156	168	160
Ratio per 1,000	717 5	1,632 8	147 4	183 1

The geographical group next most affected was No VI (Upper Sub-Himalayas) where 1 441 cases occurred

The following stations in this group had the highest number of admissions —

—	Rawalpindi.	Lahore	Ferozepore
Actual admissions	403	380	354
Ratio per 1,000	142 5	489 9	265 4

Pyrexia of uncertain origin

There were 116 admissions and no death reported under this head the admission ratio being 2 0 as against 1.2 in 1919

Dengue.

Actual admissions and ratio per 1,000 admissions with the comparative figures for 1919, and the comparative figures for the Northern and Southern Armies in 1919 and 1920 —

—	1920	1919
Actual admissions	593	651
Ratio per 1,000 ..	9 7	11 5

—	Northern Army		Southern Army	
	1920	1919	1920	1919
Actual admissions	152	222	441	429
Ratio per 1 000	4·2	8·9	17 3	13 7

There were no deaths during the year

The stations showing the highest actual admissions were Rangoon 251 Madras 114, and Calcutta 105

Scarlet Fever.

There were 43 admissions with 1 death, compared with 11 admissions and no death in 1919

Diphtheria

There were 101 admissions with 2 deaths compared with 29 admissions and no death in 1919

Cases occurred at the following stations —

Quetta 60, Ramkhet 7, Bareilly 6, and Ambala 5 The others were isolated cases

The deaths occurred at Hyderabad (Sind) and Delhi

At Quetta there were two epidemics One started at the end of December 1919 and continued till the end of April, 1920, accounting for a total of 38 cases scattered throughout the British garrison The second epidemic started in November, and 23 cases were admitted up to the end of December The epidemic was confined almost entirely to the 4th Battalion, Rifle Brigade, in Roberts Barracks

There were no serious cases

Measles

There were 21 cases during the year, compared with 74 in 1919, and 31 in 1918 There were no deaths The cases were scattered throughout the country

Cerebro-Spinal Fever

Two admissions and one death were recorded during the year, one (fatal) at Peshawar and one at Poona

Heat-Stroke

Actual admissions and deaths and their ratios per 1,000 for 1920, with the figures for 1919 and 1918 for comparison —

—	1920	1919	1918	Quinquennial period	
				1910-14	1915-19
Actual admissions	352	416	911		
Ratio per 1 000	6 1	7 4	10 4	1 2	6·0
Actual deaths	75	42	97		
Ratio per 1,000	1 31	0·74	1 10	0·22	0 06

In the Northern Army there were 277 admissions with 65 deaths, and in the Southern Army 72 admissions with 10 deaths

The following stations showed the highest ratios —

Stations	Admissions	Ratio per 1 000
Risalpur	47	53·8
Jullundur	36	49·6
Nowshera	33	28·9
Multan	20	22·3
Secunderabad	35	13·9
Peshawar	24	11 4
Rawalpindi	31	11 0

All the cases at Jullundur occurred amongst men of the 1st Battalion, Connaught Rangers, in the month of July, when the regiment was under canvas

At Risalpur and Nowshera the atmospheric conditions were unusually severe in July and August, the maximum dry bulb thermometer readings being very high with a high degree of humidity

Pulmonary Tuberculosis

There were 81 admissions with 9 deaths, compared with 84 admissions and 10 deaths in 1919

Other Respiratory Diseases

There were 1,645 admissions under this heading (bronchitis 1,291, pleurisy 133, laryngitis 109, broncho-pneumonia 50) and six deaths (broncho-pneumonia 4 asthma 1, and pleurisy 1), giving ratios of 28 7 and 0 10, repectively compared with 32 5 and 0 30 in 1919, and 27 4 and 0 20 in 1918

Dysentery, Colitis and Diarrhoea

Admissions and deaths and their ratios for 1920 —

	Dysentery	Colitis	Diarrhœa
Actual admissions, 1920	578	361	1 865
Ratio per 1,000 ,	10 1	6 3	32 5
Actual deaths ,,	9	1	
Ratio per 1,000 ,,	0 16	0·02	

The types of dysentery were recorded in 56 stations, giving a total of 564 cases Of these 470 were diagnosed as protozoal in origin and 14 bacillary, the remaining 80 being diagnosed on clinical grounds Of the cases of amœbic dysentery, 129 occurred at Secunderabad 56 at Bangalore 42 at Wellington 39 at Rawalpindi and 24 each at Poona and Jullundur

Venereal Disease.

The incidence of venereal diseases for the past ten years is shown in the following table

—	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920
Ratio per 1,000 of Strength	53 1	55 5	52 5	55·2	29 1	36 8	52 1	62·6	87·6	118·2

The causes of the increase in the incidence of venereal disease amongst the troops in India are varied and complex, and many factors considered to have had an influence are extremely difficult to substantiate.

The exceptionally low incidence of 29 and 36 per 1 000 during the years 1915 and 1916 was probably due to changes in the strength and composition of the garrison, which caused quite abnormal conditions brought about by the large number of men of higher social standing and education amongst the Territorial troops, and the higher percentage of married men, also more facilities were available at many stations for the entertainment and recreation of the men arranged by extra regimental organisations

The chief causes of the high incidence during 1920 amongst British troops are considered to be —

(1) The large number of young, untrained and undisciplined men who arrived in India since cessation of hostilities

(2) The complete dislocation of the regimental composition in British Units due to the war whereby the number of officers with experience of the control of men during peace conditions became reduced by at least 50 per cent, and experienced Non-Commissioned Officers and old soldiers who in pre-war days exercised a stabilizing influence on the morals and welfare of a unit became an almost negligible quantity

(3) The relaxation of morals and moral restraint which appears to have occurred during the war amongst the population of the United Kingdom, especially amongst the classes to which the present day young soldier in India belongs

(4) The closing of brothels in Cantonments was coincident with the rising incidence of venereal disease, and appears to have failed to attain the objectives aimed at

(5) A number of men arrived in India who had undoubtedly contracted the disease in the United Kingdom, just prior to embarkation, but in whom symptoms did not develop until after embarkation

(6) The lighting and general comfort of regimental institutes leave much to be desired, and until these are improved the young soldier is certain to seek amusements outside.

Beri-Beri.

There was one admission with no death for this disease, compared with six admissions in 1919 and 11 in 1918

The case occurred at Deolali

Poisoning

There were 123 cases of poisoning with 7 deaths of which alcohol accounted for 62 cases and 4 deaths

Invaliding

The number of men invalided during 1920 was 2,314 as compared with 4,324 during 1919

Important causes of Invaliding were V D H and D A H—314, Insanity—83, Local injuries—222, Diseases of the nervous system other than epilepsy and mental—113, Diseases of the ear 250, Diseases of the respiratory system—102 Diseases of the eye 407

SECTION II

INDIAN ARMY

Influenza

Compared with the previous year there is a considerable improvement in the admission rate Influenza ranked as the third highest cause of death

The incidence was generally highest early in the year At the ports of Bombay and Calcutta cases occurred throughout the year without the disease assuming severe epidemic proportions Epidemics occurred at Maymyo from February to April (275 cases with 12 deaths), Wellington from October to December (108 cases with 1 death), Quetta from January to May (539 cases with 8 deaths), and in November and December (410 cases with 27 deaths), when there was a high percentage of broncho-pneumonic cases At Lansdowne the highest incidence was in the months of March and April accounting for 201 of the admissions and 4 deaths

At Loralai there were 66 cases and 10 deaths from January to August, giving a case mortality of 15 15 per cent, and 39 cases and 15 deaths in November and December, giving a case mortality of 38 46 per cent The total case mortality was 23 81 per cent, compared with 33 35 in 1919

Cholera.

Stations giving the highest number of admissions —

Lucknow—Seven cases were admitted on the 30th August, all from 'C' Company of the 1-4th Rajputs The eighth case was admitted on the 3rd September from the 5th Mule Depôt The disease was not prevalent amongst the civil population at the time, though a few sporadic cases were reported from Lucknow City, the surrounding district, and the Sadar Bazar The source of infection was not discovered

Bellary—One case occurred on the 22nd September and the other 10 days later The source was discovered to be the milk supply of the canteen in the lines of the 2-73rd Malabar Infantry

In none of the other cases was the source of infection discovered

Small-Pox

The stations chiefly affected were —

Karachi	14	Nowshera	7
Quetta	12	Loralai	5
Bangalore	11	Julluudur	5

Karachi—The majority of the cases occurred in April and May when the disease was prevalent amongst the Indian civil population

Quetta—The cases were sporadic, occurring throughout the station in March, April and May

Bangalore—All the cases were admitted to hospital, within the space of four weeks, in February and March, during which months the disease was prevalent in the city

Nowshera—Four men were infected by contact with a previous case in the segregation camp The remainder were infected at other stations, the disease not being prevalent in Nowshera

Loralai—All cases were amongst recruits who were infected on their way to Loralai

Enteric Group of Fevers

Admissions during the year were 129 with 31 deaths giving ratios of 0 6 and 0 14, respectively

All the cases were sporadic and in no instance was a definite source of the infection discovered

The state of inoculation of the Indian Army in India, as shown by the half-yearly census taken on December 31st 1920, was as follows —

	British Officers	Indian Officers and other ranks
Total number of troops present at census	2,169	216 445
Number not inoculated	152	18,524
Number inoculated—		
(a) Under 12 months	2 322	167,799
(b) Over 12 but under 24 months	467	24,231
(c) Over 24 months	228	5,891
Primary inoculations during previous half year	61	25 371
Re inoculation during previous half year	1,099	39 801

Sandfly Fever.

There were 4 646 admissions with no death. The ratio per 1,000 was 21.5

Pyrexia of Uncertain Origin

There were 307 admissions with 4 deaths reported under this head giving ratios per 1 000 1 4 and 0 02 respectively, compared with 2 3 and 0 0 in 1919

Dengue.

	1920	1919
Actual admissions	153	9 4
Ratio per 1 000	0 7	0 4

There were no deaths during the year

The stations showing the highest number of admissions were Rangoon 62 and Meiktila 49

Mediterranean Fever

There were only 2 admissions which occurred at Jullundur

Plague.

Comparative figures for 1920 and 1919 —

	1920	1919
Actual admissions	29	31
Ratio per 1 000	0 1	0 1
Actual deaths	17	20
Ratio per 1,000	0 08	0 09

Comparative ratios for Northern and Southern Armies, 1920 and 1919 —

	Northern Army		Southern Army	
	1920	1919	1920	1919
Admission Ratio per 1,000	0 1	0 1	0 2	0 2
Death ratio per 1,000	0 07	0·07	0·09	0 11

The following stations reported cases —

Jhelum—The first case appeared on the 5th March in a non-combatant of the 39th Central India Horse, living in the Cureton Lines, which were rat infested, whence the disease spread to all barracks except the Monro Lines Cureton Lines have since been demolished The last case was reported on the 14th June The disease was prevalent in the city and surrounding villages during the period In all 31 cases occurred 15 combatants and 16 non-combatants, 19 of whom had been inoculated

Detail of the types of the disease and the mortality amongst inoculated and uninoculated men —

Table of Plague incidence

Total Cases		Inoculated			Uninoculated		
		Cases.	Deaths	Case mortality per cent	Cases	Deaths	Case mortality per cent
Bubonic	23	14	9	64 3	9	7	77·7
Pneumonic	8	5	4	80·0	3	2	66 6
Total	31	19	13	68 4	12	9	75·0

Scarlet Fever.

There were no admissions under this heading during the year

Diphtheria

There were 22 admissions with 6 deaths during the year

Cases occurred at the following stations —

Quetta 20 with 5 deaths, Jubbulpore 1 with 1 death and Bareilly

Quetta—The disease occurred in epidemic form in October and November originating apparently from two cases transferred from Sibi early in October The type of disease was unusual only one case exhibiting a typical white membrane.

Measles

There were 681 cases with 8 deaths in 1920 compared with 386 cases with 11 deaths in 1919

Cerebro-Spinal Fever.

There were 13 admissions with 7 deaths during the year

Mumps

Total admissions—1,376 Ratio per 1,000—6.4

Bangalore—All the cases were of the bubonic type and occurred in August, September, October and December They were sporadic and distributed throughout the station The source of infection was rats migrating from the native bazars, where the disease was prevalent throughout the year No case occurred amongst men who had been inoculated

Relapsing Fever.

Comparative figures for 1920 and 1919

	1920	1919
Actual admissions	211	141
Ratio per 1 000	1 0	0·6
Actual deaths	11	11
Ratio per 1,000	0 05	0 05

The following stations furnished the highest number of cases —

Jubbulpore 23 Meerut 20, Kohat 13, Dharmsala and Delhi 11 cases each Lansdowne, Aurangabad and Dehra Dun 9 cases each, Malakand 8

Jubbulpore—The great majority of the cases were in men infected while on leave, a few were infected locally The disease was prevalent in the city in the month of September

Meerut—Of the 20 cases, 16 occurred in March, April and May An outbreak in No 3 Mule Depôt accounted for 10 cases, the others being infected while on leave or at other stations

Cases occurring at other stations were sporadic, originating amongst men who had been infected while on leave or amongst recruits Salvarsan and its allied drugs were used in the treatment of the disease with great success

Kala-azar

There were 2 cases and no death during the year The cases occurred at Lansdowne and Wellington Of the cases of bacillary dysentery 8 occurred at Abbottabad and 5 at Ferozepore

At Meiktila an epidemic began in July in the 2-80th Carnatic Infantry which accounted for 157 admissions Five only of these were definitely accounted for (4 protozoal 1 bacillary), no casual organism being isolated in the remaining cases which were clinically of the bacillary type.

The diagnosis of dysentery according to the discovery of the causative organism or purely clinical manifestations was introduced in September, 1920

Venereal Diseases

The incidence of venereal disease for eleven years —

	1910	1911	1912	1913	1914	1915	1916	1917	1918	1919	1920
Ratio per 1,000 of strength	16 9	14 9	14 4	12 6	15 6	13 3	40 1	45 0	53 1	5 3	60 5

Though there was a slight improvement in the incidence of venereal disease amongst Indian Troops, when compared with that of the previous year, the admissions ratio remained high The causes of this were —

(1) Change in the type of man and loss of continuity of regimental control and regimental life

(2) Inclusion in the statistics of Indian Troops of large numbers of men classed as combatants in war units such as Royal Field Artillery Batteries, Ammunition Columns, Mule, Camel and Bullock Corps, and Mechanical Transport Companies These men were of lower grade socially, morally, and intellectually than the pre-war sepoy and were, as a class, more prone to contract venereal disease

(3) The large number of men who contracted disease when on furlough

Oriental Sore.

There were 354 admissions during the year

Stations giving the highest number of admissions were —

Dera Ismail Khan 75, Tank 32, Kotkai 23, Karachi 20, Quetta 18, Peshwar and Dehra Dun 11 each, and Manzai and Loralai 10 each

Pulmonary Tuberculosis

Pulmonary Tuberculosis, ratio per 1,000

Year	Army of India		Gurkhas		Excluding Gurkhas	
	Admissions	Deaths	Admissions	Deaths	Admissions	Deaths
1916	2 8	0 42	4 2	1 39	2 6	0 22
1917	2 9	0 63	6 7	2 28	2 3	0 37
1918	2 5	0 63	5 4	1·90	2 3	0 52
1919	4 0	1 08	5 6	2 73	3 9	0·94
1920	4 3	1 08	6 0	2 68	4 1	0 89

Other Respiratory Diseases

There were 11,597 admissions under this heading (bronchitis 9,109, broncho-pneumonia 1,230, asthma 449, pleurisy 396) and 334 deaths (broncho-pneumonia 294, pleurisy 18, bronchitis 13), giving ratios of 53 6 and 1 54 respectively, compared with 56 8 and 1 31 in 1919

Dysentery, Colitis and Diarrhoea

Admissions, deaths, and their ratios for 1920

	Dysentery	Colitis	Diarrhoea
Actual admissions 190	1,3 0	6,089	3,226
Ratio per 1,000	6 1	28 1	14 9
Actual deaths	25	11	2
Ratio per 1,000	0 12	0 05	0 01

The types of dysentery were recorded in 57 stations giving a total of 1,221 cases Of these 530 were diagnosed as being protozoal in origin and 26 bacillary, the remaining 665 being diagnosed on clinical grounds Of the cases of amœbic dysentery 104 occurred at Bangalore, 52 at Dehra Dun, 48 at Karachi, 27 at Bareilly, 25 at Landi Kotal, and 20 each at Lucknow

Beri-Beri

There were 21 admissions for this disease with 3 deaths, compared with 6 cases in 1919

The cases occurred at the following stations, Shwebo 10 with 3 deaths, Barrackpore 7, Bangalore 2, Rangoon and Almora one case each

Scurvy

There were 99 admissions and 2 deaths from this disease during the year, the respective ratios being 0 5 and 0 01, per 1,000, compared with 0 6 and 0 01 in 1919

The chief stations returning cases were —

Manzai 9, Manmad 9, Karachi 6, Chakala 5 Jandola and Poona 3 cases each

One death each occurred at Nasirabad and Ahmedabad

Scabies

Table showing comparative figures for 1920 and 1919 —

	1920	1919
Actual admissions	5,949	9,568
Ratio per 1,000	27 5	41 6

Ringworm

There were 872 admissions, giving a ratio of 4 0 per 1,000

Guinea Worm

Table showing comparative figures for 1920 and 1919 —

	1919	1920
Actual admissions	95	34.6
Ratio per 1,000	04	1 5

Suicides

There were 16 deaths under this heading in 1920 of which 5 occurred in hospital and 11 out of hospital

The following were the causes —

Gun-shot wounds 11, suffocation from strangulation 2, opium poisoning 2, croton oil poisoning 1

Invaliding

The number of troops invalided from the Indian Army was 4,564 giving a ratio of 21 1 per 1,000 The principle causes of invaliding were —

Pulmonary Tuberculosis	559
Injuries	505
Eye diseases	466
Malaria	334
Respiratory diseases	322
Venereal diseases	318
Circulatory diseases	277
Nervous diseases	252
Anæmia	187
Ear diseases	121
Leprosy	46

Out of 559 men invalided for tubercle of lungs 57 were Gurkhas The invaliding rate from this cause among Gurkhas was 2 5 compared with 2 6 for the remaining Indian Troops

months from the beginning of the second to the end of the sixth are 50 per cent more than those in the last six months of the year

It is not yet safe to enter into a detailed statistical analysis of these figures A few more years' tabulation will be required to enable us to make out by the presence or absence of discrepancies how far these returns are reliable

The recording of a high rate of infantile mortality has always been a regrettable feature of these reports since statistics were first compiled

The causes are many , the poverty of the vast bulk of the population, the custom of early marriage and the general lack of sanitation in the homes of the people have been noted on frequently

Chief Causes of Mortality

The number of deaths registered under each of the headings at present in use is given in the following table —

Province	Cholera		Small-pox		Plague		Fevers		Dysentery and Diarrhœa		Respiratory diseases		All other causes	
	Total deaths	Ratio per 1,000	Total deaths	Ratio per 1,000	Total deaths	Ratio per 1,000	Total deaths	Ratio per 1,000	Total deaths	Ratio per 1,000	Total deaths	Ratio per 1,000	Total deaths	Ratio per 1,000
Delhi	7	01	19	04	19	04	8 347	20 03	358	85	4 505	10 8	1 552	3 71
Bengal	54,199	1 2	36 190	8	66	001	1,144 421	25 2	24,340	5	22,609	5	199,787	4 4
Bihar & Orissa	26 341	7	23,001	6	19 108	5	762,063	22 0	30 595	8	8,091	·2	197,933	5 6
Assam	2,421	40	1,700	28			112,437	18 57	11,143	1 84	12 956	2 14	34,746	5 73
United Provinces of Agra and Oudh	6 952	15	6,354	13	24 872	53	1,442,376	30 82	15,873	34	33,198	71	213,210	4 25
Punjab	138	01	9 319	48	6 137	32	371 432	19 21	9,185	47	52,770	2 73	103,092	5 34
North West Frontier Province	2	·001	2 051	1 00	732	36	36,567	17 92	224	11	1,326	·65	6 793	3 33
Central Provinces and Berar	3,491	·25	2,176	16	14 374	1 03	346,276	24 88	30,281	2 18	42 853	3 08	118,677	8 53
Madras Presidency	31,139	8	13 697	3	14,652	4	324,998	8 1	56,402	1 4	46,987	1·2	386 106	9·6
Coorg	6	03	108	·62	68	39	6 288	35 94	281	1 61	257	1 47	1,016	5 80
Bombay Presidency	2 047	10	3,536	18	13,857	71	266 092	13 58	29,895	1 53	96,486	4·93	149,383	7·62
Burma Lower	2 634	43	2,042	33	3,539	58	62,303	10 21	8,075	1 32	8,132	1 33	70,392	11 53
Burma Upper	762	20	811	22	1 944	52	38,189	10 26	1,780	48	3,257	·88	55,916	15 03
Ajmer Merwara	1	002	325	65			9,413	18·77	302	61	342	48	2,609	5 20
British India 1920	130,140	55	101 329	·43	99,368	42	4,931,202	20 68	218,734	92	3 8,669	1 40	1,541,212	6 46
British India 1919	578,426	2 43	136,077	57	74,284	31	5,468,181	22 93	291,613	1·22	350 133	1 47	1,655,434	6 94

SECTION III.
GENERAL POPULATION

Infant Mortality

A study of the figures of infant mortality shows — Firstly, that, for all-India, of 100 infants which fail to survive the first year of life, no less than 43 die in the first week , secondly, that in practically all the provinces the total deaths of infants in the first week of life are greater than the total deaths in the succeeding three weeks , thirdly, that the deaths in the five

Plague.

History records that previous outbreaks of epidemic plague have commonly lasted about 20 years and have then died out. It is now 25 years since plague made its first appearance in Bombay

Cholera.

Bihar and Orissa—The total number of deaths was 26,341 giving a ratio per 1,000 of 7 The remarks by the Sanitary Commissioner regarding association of cholera and humidity are not those usually accepted ,

the most probable explanation of the rises in the mortality curve is the association with the pilgrim fairs and not with relative humidity The Sanitary Commissioner also connects the incidence of cholera with the prevalence of flies at pilgrim centres The proof of this is lacking and I consider it an indefensible assumption *in view of the great opportunity of* direct infection from the fouled soil and water and close contact of pilgrims at these crowded fairs

Though a large Imperial grant of Rs 3,00 000 was allotted to Bihar ear-marked for expenditure on Puri water supply there is no mention in the report to hand of any progress in this work.

Even the provision of the best sanitary conditions and pure water supplies would not entirely suffice. The religious tenets and observances of devout Hindus include bathing in and drinking the waters of certain sacred rivers, streams and tanks Possibly in the early dawn of Hindu religious observances, the places set apart for ceremonial ablution and drinking were the purest waters available In early India *no doubt* the wide river Ganges was a far better drinking water supply than the water of wells and ponds Even now it has marvellous powers of self-purification, but the growth of big towns along its banks, the pollution by crowded city populations and trade effluents have ruined its purity

Hindu religious observances have not moved with the altered conditions The provision of a pure water supply to Calcutta may prevent severe epidemics, yet a noticeable preponderance of cholera in that city falls on the Hindus , a fact easily to be understood when one watches a bathing ghat in the early morning

Taking India as a whole, the annual variation of cholera incidence fluctuates widely But it is noticeable how every province shares alike both the good and bad years The year 1897 is a good instance of this It is quite exceptional for one province to suffer severely in a year when other provinces escape lightly This proves the prime importance of the migration factor of the large numbers of pilgrims and labourers to and from the *fair* centres and labour areas One case makes many , a small outbreak at a pilgrim centre may start a vicious circle leading to widespread epidemic

Bombay—The incidence of cholera was unusually low, deaths totalled only 2,047 The decennial mean ending 1919 is 19,455 The majority of the cases occurred in the second half of the year and the infection was greatest in the districts of Poona, Satara, Belgaum and Bijapur All outbreaks were definitely traced to importations and it is noted that the two rivers, Krishna and Dudganga played an important part in the distribution of infection

SECTION V

VACCINATION AGAINST SMALL-POX

Vaccine Lymph

Calf-lymph is alone used in India It is prepared at vaccine depôts in three forms Glycerine paste, Lanoline paste and Glycerinated calf-lymph

Glycerinated calf-lymph is the chief medium used in the country Its use is extending in most of the provinces, it having been used entirely in Assam the North-West Frontier Province and the Central Provinces

The use of lanoline lymph is limited to Madras and Bengal The success rate in Bengal was 97 7 per cent with lanoline paste and 95 8 per cent with glycerinated lymph Further experiment confirmed the view long held that the action of glycerine is too powerful in the hot season and rapid loss of potency of glycerinated lymph takes place Lanoline paste remains effective for at least a week in the hottest season In Madras this lymph was used in all local fund districts and municipalities until the end of June, 1920 In July and August it was replaced by glycerine lymph as a tentative measure as it was *not yielding* good results The results with the latter were also unsatisfactory and lanoline lymph was issued during the remaining portion of the year Madras experienced the same difficulty last year, *viz*, a success rate in primary vaccinations of 78 7 per cent only The report states that continued experimental work is being carried out to improve the quality of lymph prepared at the King Institute

Arm to arm vaccination was practised only in the Guzerat Registration District of the Bombay Presidency

In Bihar and Orissa further experimental work was carried out at the Namkum Vaccine Depôt during the year with some interesting results With a view to producing a cleaner and purer vaccine, disinfectants were experimented with and it was found that the addition of 2 per cent boric acid improved the quality of the vaccine by diminishing the number of other organisms present without decreasing its potency After being kept in cold storage for six months the boric vaccine gave cleaner and better vaccination marks than the ordinary vaccine

Experiments were also made in Bihar and Orissa *with a view to producing* a less fluid vaccine and it was found that a mixture of 5 per cent starch and 2 per cent boric acid with 93 per cent water after boiling can be used to dilute and thicken the crude glycerinated vaccine with good results and without impairing its potency Further experiments are being continued with this mixture before it is adopted for general issue

Reviews.

Puerperal Fever—By F R Parakh, m d ch b , Bombay The Commercial Printing Press pp 153

This small work opens with an interesting account of the history of puerperal fever from early times down to the period when its true nature was recognised Then follow chapters dealing with the etiology, bacteriology, modes of infection, pathological anatomy, symptoms, diagnosis, prognosis and treatment

We notice throughout the whole book the almost complete absence of any reference to the more recent work on the subject This is more especially the case when one comes to treatment The author would seem still to recommend curetting in acute cases, an operation which is practically condemned by all modern writers No mention is made of any other operative treatment such as pelvic drainage, hysterectomy, ligature of pelvic veins, removal of tubes or ovaries, etc , all of which may have to be considered under certain conditions, nor does he seem to be aware that the treatment of puerperal septicæmia by means of anti-streptococcic serum has been very largely tried with most disappointing results As to vaccine treatment we meet the statement "I do not wait for a bacteriological examination and lose *precious time* over an auto-vaccine" This would seem to imply the use of a vaccine, *without knowing* whether or not the infection were due to the particular organism injected , surely a most unscientific procedure, not to mention the fact that most authorities are

agreed that an auto-vaccine is of far greater value than a stock one

From these remarks it will be seen that the book can hardly be called up-to-date, though there is much of interest in it and if it leads to the more careful study of the still far too prevalent disease of puerperal sepsis it will have accomplished a valuable mission

J C H LEICESTER

A STUDY OF INTESTINAL STASIS —By J C WATT, M C M B, etc John Bale, Sons & Danielsson Ltd Price 1s net.

THE idea of intestinal stasis leading to many diseases by upsetting the normal metabolism has been long recognised both in the East and West Madhavkar, the writer of the Ayurvedic System of Pathology, observed *Sarvesam charogánum mdánam kupito mala* the ultimate cause of all diseases is fæcal stasis With the same idea in view the writer of *Hatayoga Samhita* recommended three processes of internal purification to attain perfect health and longevity These procedures not only aimed at mechanical cleansing of the gastro-intestinal tract from mouth to anus and nasal passages from anterior nares to naso-pharynx, but they also helped the performer to develop his gastro-intestinal musculature together with a certain amount of volitional control of these so called involuntary muscles With the advent of bacteriology although the conception of disease and its cause has changed radically, the role of intestinal stasis in inducing a morbid condition in the body where the pathogenic bacteria are easily grafted has been sufficiently recognised Thus in the experimental production of cholera in young guinea-pigs the animals acquire the disease only when intestinal stasis is artificially induced The author in his neat little article very ably establishes the cause of stasis at the distal end of the intestine, at the junction of the pelvic colon with the rectum and devises a simple surgical operation to remove the obstruction which he thinks is really a "bad part" in the machine turned out by nature Sufficient evidence has not been adduced to justify the above conclusion The author's own observations on infants amply prove that newly turned out machinery from nature's workshop has perfect parts working in perfect harmony Defects developing subsequently may safely be argued to be acquired defects The mechanical *obstruction* very ingeniously depicted in the sketch may be due to atony of the intestinal wall leading to dilatation and almost reduplication Surgical procedure may ameliorate the condition but there is every chance of recurrence as intestinal atony may be due to a variety of causes the majority of which remains untouched by the operation

G C MAITRA

LECTURES ON THE SURGERY OF THE STOMACH AND DUODENUM —By JAMES SHERREN Published by H K Lewis & Co, London Price 4s 6d net

MR JAMES SHERREN has published in the shape of a small book his lectures to students on the surgery of the stomach and duodenum It is an excellent book and contains many original ideas Mr Sherren deals mostly with his wide personal experience which makes the book more important The cases cited are of great value He clearly lays *down what to* do in cases of ulcer of the stomach and duodenum and in malignant disease He shows what symptoms may be due to trouble in the gall bladder, kidney, duodenum or stomach He might seem to be a little dogmatic but this can be excused in view of his wide experience It is to be hoped that the author's next edition will be a larger volume This should be of great value to all House-Surgeons, newly qualified doctors and senior students

S N MUKERJI

FIRST AID IN CHILDLIRTH By G J CAMPBELL, M D ch B Butterworth & Co, Calcutta pp xiv 245 xv Rs 3|- net

THIS small work has been written at the instigation of the Victoria Memorial Scholarship Fund Committee in the hope that it will help to awaken the women of India to the need for improving the country *dhais* and create a demand for the well-trained *dhai*

The book is written in simple language and is clearly expressed The opening chapters give directions for rendering first aid in emergency cases of childbirth with the reasons why such aid should be given Then follows a short simple description of the anatomy of the female pelvis and generative organs, with the signs and symptoms of gestation and the various common ailments met with during this period These are followed by the necessary preparation for, and management of normal labour, in which very rightly, great stress is laid on the cardinal importance of surgical cleanliness The succeeding chapters treat of the emergencies of labour and the treatment of the puerperim followed by directions for the care of the infant and short accounts of the more common ailments to which the young child is subject

The directions given will, in most cases, be endorsed by the majority of those with experience in obstetric work and infantile disorders, with certain exceptions, *e g*, we think there are not many authorities who would agree with the account of "Twilight Sleep," as the dangers and disadvantages of this method which have caused it to be almost entirely given up, except in exceptional circumstances, are not even mentioned Again we do not think the majority of those with experience in infant feeding would endorse the

directions and methods recommended for the artificial feeding of infants

That there was need for a book of the character we think no one will deny, and if it only obtains a wide enough circulation it should do much to lower the present high rate of mortality in childbirth and among young infants, which is such a terrible scourge of this country We could wish that a rather better quality of paper had been used for the book, as that employed shows the print through from the one side to the other, which is trying for the reader In conclusion we wish this small work the success which it deserves

J C H LEICESTER

A TEXT BOOK OF SURGICAL ANATOMY—By WILLIAM FRANCIS CAMPBELL, AB, M.D, F A C S, SURGEON-IN-CHIEF, TRINITY HOSPITAL, etc, New York and Brooklyn (3rd Edition) Revised, with 325 original illustrations W B Saunders Co, Philadelphia & London, 1921 Price 17*s* 6*d* net

THIS is now a well known text-book of surgical anatomy The third edition has been thoroughly revised and new illustrations have been added The text is clear and concise and the illustrations ample, though mostly diagrammatic Such a work fills in the gap which too often exists between anatomy and surgery, and will be consulted with advantage by the student and the surgeon

F P CONNOR

THE MANAGEMENT AND MEDICAL TREATMENT OF CHILDREN IN INDIA SIXTH EDITION, 1922 By V B GREEN-ARMYTAGE, M D, M R C P, I M S Thacker, Spink & Co, Calcutta Rs 10|-

THE author of this, the sixth edition of what is probably the oldest professional book still in publication in India, states in the Preface that he has tried to adhere as closely as possible to the original idea of Dr Goodeve Surgeon Henry Goodeve of the Bengal Medical Service wrote in 1844 "The observations contained in this pamphlet are intended to aid those (a large class in India), who are placed at a distance from the advice of medical practitioners I would earnestly caution them never to trust to their own judgment when they can procure professional assistance"

Since the publication of the last edition, nine years ago, great advances have taken place in medical knowledge, rendering necessary considerable alterations and corrections Not only has every page been revised but we note that a number of new sections have been added

During the last few years an advance of interest and importance has been made in the science of Infant Feeding The calorimetric system of feeding infants is described so as to bring this method within the reach of an intelligent parent The caloric requirements of infants at different ages are stated per pound of body weight, and the caloric values of the food-stuffs concerned are given From these data may be estimated the exact food requirements of the infant in order to maintain nutrition and ensure gain in weight The author states that he has found this method of feeding of admirable utility in private practice, but he adds as a word of practical warning, that in his opinion calorimetric standards should not be employed in the new born, in infants with gastro-intestinal disturbance, nor in any infant until it is completely weaned

Heart and chest diseases are treated in a manner which should enable a parent to be on the outlook for symptoms of these conditions, and ensure early treatment for the child

The symptoms and treatment of chronic intestinal indigestion or mucous disease, which the author has found to be exceedingly common in all grades of society in India are described at considerable length The cure is in the hands of every mother, since the disease is entirely due to dietetic errors, starchy and sugared food preponderating in the child's diet In order to make the diet scheme easier, a simple day's diet is appended

Considerable emphasis is laid on the forms of chronic diarrhœa which occur among children in the tropics Two separate diseases are described under the heading of white diarrhœa, both of which are not infrequently seen in children in certain parts of India, the one is sprue, the other coeliac disease

Cyclic or bilious vomiting is referred to as a catarrhal condition of the gastro-intestinal tract, which gives rise to what parents frequently describe as a bilious attack which periodically prostrates the child It is important to bear in mind that this condition of vomiting may be due to acidosis, for the author has seen cases which have been allowed to sink into coma and death from non-application of the almost specific home remedy, bicarbonate of soda

The new section on mental deficiency should be a help to those who are faced with the problem of the future of children thus afflicted Two other conditions (which are not uncommonly seen in India) are described, cretins and mongols, and the great difference between them pointed out, namely that while the mongol is incurable, the cretin if recognised early can be cured

We are glad to note that the attention of those who have the charge of young children has been drawn to the unfortunately very frequent occurrence among children in India of vaginal and labial discharges These conditions are met both in schools and private houses alike. A searching investigation is necessary and a very competent microscopical report should be obtained The note on masturbation should help parents to be on the watch for such habits, and to check them



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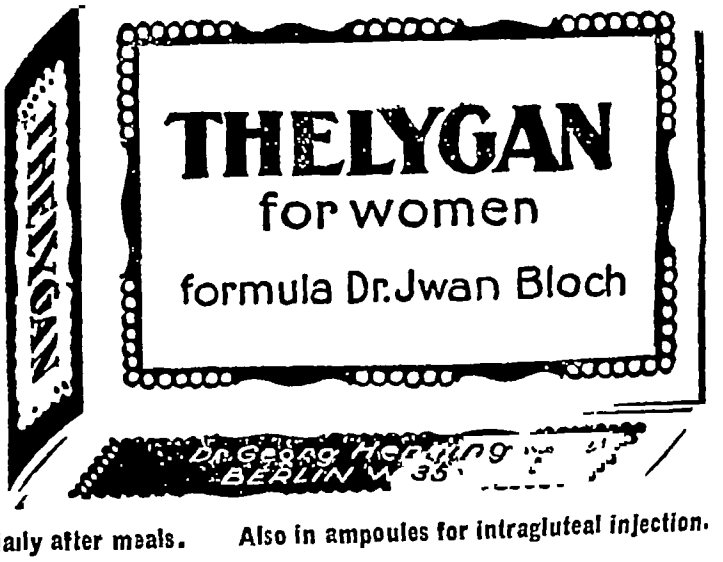
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It is no uncommon thing in India for a parent far from medical aid, to feel anxiety on acount of some swelling which has appeared in her child The newly added section on glandular swellings meets the needs of such cases The attention of parents is also drawn to the relative frequency with which stone in the bladder is met with in children in India between the ages of two and ten

The appendix which contains useful receipts connected with alimentation has been entirely re-written The improvement in the printing and type of this edition is noticeable and renders easy any required reference This book can be warmly recommended to the public for whom it is intended

D F CURJEL

Correspondence.

BRITISH INCOME TAX

To the Editor of THE INDIAN MEDICAL GAZETTE.

DEAR SIR,—A short time ago you were good enough to insert a letter for me on the subject of British Income Tax As a result I have had the pleasure of answering inquiries from many of your readers and have been instrumental in pointing out to them how they could recover the tax which has been deducted from income received from this country In many cases readers were under the impression that they could not claim because the securities were held in the names of persons residing in this country

It has occurred to me that there may be others in a like position who are still under the impression that they have no claim for repayment. I should like to point out to such persons that every British Subject who received income which has suffered deduction of tax in this country, may recover the whole or part thereof irrespective as to whether the securities stand in their own names or not

By the last Finance Act the Income Tax was reduced from 6/- to 5/- in the £ and recipients of income from this country should take care that the tax is deducted at the lower rate in future

Any further information I shall be pleased to submit.

Yours faithfully,
S J KING,
Room, 41, Langbourne Chambers,
17, Fenchurch Street,
London, E C 3
England

Service Notes.

APPOINTMENTS

LT-COL R. R. LLOYD DSO, IMS, Officiating Civil Surgeon, Hoshangabad, is appointed to be Civil Surgeon, Pachmarhi, in addition to his own duties, from the 1st to the 31st October 1922

THE services of Major M S Irani, IMS, are placed at the disposal of the Government of Bombay, with effect from the 15th April, 1922.

THE Governor in Council is pleased to appoint Major J Taylor, MD, DSO, IMS, to act as Director, Bombay Bacteriological Laboratory, *vice* Lieutenant-Colonel W Glen Liston, CIE, MD, DPH, IMS, proceeding on leave

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THE services of Colonel V B Bennett, MB, FRCS, IMS, are replaced at the disposal of the Military Authorities, with effect from the date on which he is relieved of his duties as Acting Surgeon-General with the Government of Bombay by Major-General, W L Jennings, MD, CM (Edin), DPH (Ire), FCPS (Bom), IMS

PROMOTIONS

WITH reference to Army Department Notification No 1790, dated the 19th October, 1917, and No 2670, dated the 22nd August, 1919, the promotion to the present rank, of Major R E Wright, MD, is antedated from 27th July to 27th January, 1919

THE following promotions are made, subject to His Majesty's approval —

Majors to be Lieutenant-Colonels

Abdurrahman Khan Lauddie, MB, Clayton Alexander Francis Hingston, OBE —Dated 1st September, 1922

Captains to be Majors

John Scott, DSO, MB (Brevet Major), Frederick William Hay, MB George Tate Sidney Milverton Hepworth, MB Harry Slater Cormack, MC, MB, FRCSE., Krishnan Gopinath Pandalai, MB FRCS, Jyoti Lal Sen, MC MB—Dated 28th July, 1922

Captain (now Major) G L Duncan, MB to be acting Lieutenant-Colonel while commanding an Indian General Hospital Dated 2nd December, 1921

LEAVE.

MAJOR K G GHARPUREY, IMS has been granted, with effect from the 1st April 1922, leave on average pay for eight months and on half average pay for four months

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MAJOR F W CRAGG MD IMS, of the Bacteriological Department, is granted privilege leave for five months and twelve days, combined with leave on average pay for four months and one day and on half average pay for two months and seventeen days, with effect from the afternoon of the 6th October, 1921

LIEUTENANT-COLONEL W GLEN LISTON CIE, MD, DPH, IMS is granted privilege leave for six days combined with leave on average pay for such period as would bring the total period of absence up to three months, with effect from the 2nd September, 1922 or the date on which he avails himself of it

RESIGNATION AND RETENTION OF RANK

CAPTAIN LAO HTIN POH is permitted, subject to His Majesty's approval, to resign his temporary commission, with effect from the 30th May, 1922

LIEUTENANT HUGH DONOVAN, MB, is permitted, subject to His Majesty's approval, to resign the service, with effect from the 4th August, 1922

THE undermentioned officers are permitted, subject to His Majesty's approval, to resign their temporary commissions, with effect from the dates specified —

Captain Kanhaya Lal Kapur Dated 9th July, 1922

Captain Kanayalal Naraindas Sonpar Dated 24th July, 1922

Captain Pherozshah Manekshah Taleyar Khan Dated 31st July, 1922

Captain Denis Thompson Prior Gay Dated 5th August, 1922

Captain Palathmikal Varkey Cherian Dated 11th August, 1922

With reference to Army Department Notification No 1115, dated the 30th June 1922, and No 1200, dated the 14th July, 1922, the undermentioned officers are permitted to retain the rank of Captain —

Jamshedji Ruttonji Mirza Bola Dayanand Rao

With reference to Army Department Notification No 233, dated the 10th February, 1922, No 720, dated the 28th April, 1922, and No 950, dated the 9th June, 1922, the undermentioned officers are permitted to retain the rank of Captain —

Raghupati Banerji Brij Ratan Jain
Dadabhoy Dinshaw Bariava

The undermentioned officers are permitted, subject to His Majesty's approval to resign their temporary commissions, with effect from the dates specified and to retain the rank of Captain —

Captain Paul Xavier Godinho, M B E Dated 16th July, 1922

Captain Panikulam Varghese Francis Dated 8th August, 1922

Captain Subbaraya Kumaraswami Pillai Dated 11th August, 1922

With reference to Army Department Notification No 1152, dated the 7th July, 1922, the undermentioned officer is permitted to retain the rank of Captain —

Khanderao Krishnarao Dhairyawan

Retirements

Subject to His Majesty's approval, Lieutenant-Colonel Frederick Troughton Thompson, M B has been permitted by the Right Hon'ble the Secretary of State for India to retire from the service, with effect from the 1st July, 1922

NOTICE.

BRITISH MEDICAL ASSOCIATION MEETING GLASGOW, 1922

MESSRS BURROUGHS & WELLCOME'S EXHIBITS

Most interesting perhaps, of all the many interesting products exhibited by Messrs Burroughs Wellcome & Co, was 'Moogrol,' a new and very promising therapeutic agent for use in combating leprosy Though but recently made available for general use, 'Moogrol' represents the outcome of patient and laborious investigations dating as far back as 1904 In its finished state, as exhibited, 'Moogrol' is a limpid, colourless oil (presenting a mixture of esters of acids of the chaulmoogric series), eminently suitable for intramuscular and intravenous injection Reports of therapeutic trials indicate very encouraging results from this means of treatment

In view of the extensive and extending use of endocrine glands in therapeutics, special importance was attached to the exhibits which demonstrated the preparation—in the various stages from the raw animal glands to the compressed products, ready for administration—of 'Tabloid' Thyroid Gland and 'Tabloid' Pituitary Gland Also to be seen were a series of tubes containing specimens of the various dried gland substances which go to make up 'Tabloid' Mixed Glands Male and Female—products for use in pluriglandular therapy, a noteworthy development in endocrine treatment

The use of "stainless steel" for hypodermic needles represents a distinct advance, and Messrs Burroughs Wellcome & Co had an interesting display, showing in a very striking manner how these needles remain bright and unspotted in conditions which reduce needles of ordinary steel to a state of rust.

Mosquitoes and other insects, particularly objectionable for their biting and stinging propensities, for their disease-carrying possibilities or for both, were shown by photographs, and attention was directed to the value of 'Sketofax' Antiseptic Cream in repelling their attacks and neutralising the effects of their activities

The advantage of the compact 'Tabloid' Carlsbad Kissingen and Vichy Mineral Water Salts, as compared with the bulky-bottled waters, and many other ingenious demonstrations were features of a notably well-selected and arranged exhibit

PNEUMOSAN

Pneumosan is a bluish purple, highly volatile liquid, and is chemically amyl-thio-trimethyl-amine This drug has been fairly extensively used during recent years for intramuscular injection in cases of tuberculosis of all types Recent reports record its use with good results in cases of lupus, tubercular bone disease, and glandular tuberculosis The dosage is from 4 to 10 minims intramuscularly daily and the injections are harmless and well tolerated An analysis of 103 cases of pulmonary tuberculosis treated with Pneumosan for periods varying up to 18 months by the Medical Officer in charge of the General Dispensary, Tuberculosis Clinic, Birmingham, gave the following results — disease arrested 11, much improved 35, improved 33 no change 15, deteriorated 9 Dealing with a second series of 103 cases over a period of 16 months, the results recorded are deteriorated 11, no change 5, improved 24, much improved 36, disease arrested 27 The last two groups of patients were all enabled to be put on to full work In the case of one factory employee, the patient after 16 months' treatment was able to do full work and often overtime in a factory for 18 months and was still in full work when reported on, although T B were still present in the sputum The preparation is stated to remain stable under tropical conditions of climate

Notice.

Scientific Articles and Notes of interest to the profession in India are solicited Contributors of Original Articles will receive 25 Reprints gratis, if required

Communications on Editorial Matters, Articles Letters and Books for Review should be addressed to The Editor, *The Indian Medical Gazette*, c/o Messrs Thacker, Spink & Co, P O Box 54, Calcutta

Communications for the Publishers relating to Subscriptions, Advertisements, and Reprints should be addressed to The Publishers, Messrs Thacker, Spink & Co, P O Box 54, Calcutta

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LETTERS, COMMUNICATIONS, &c, RECEIVED FROM.—

P T Kothary, Esq, L M & S, Chief Medical Officer, Junagadh State, Hari Charan Gupta, Esq, Mukhtagacha, Lt.-Colonel A Hooton, I M S, Agency Surgeon, Rajkot, Major F J W Porter, R A M C (Retd), Surgical Nursing Home, Bombay, R. M Mukharji, Esq, Assistant Surgeon, Jangipur, Murshidabad, Dr M J Parmanand, M B B S Girgaum, Bombay, Maung Po Pe, Esq, Sub Asst Surgeon, Civil Hospital, Zigon, Burma, J G Martin, Esq, Taxila Hospital, Taxila, The Health Officer, Station Municipality, Bangalore, Dr S N De, L M S (Cal), Corporation Laboratory, Calcutta, Dr J C Ghosh, B Sc, F C S, Principal, Ghosh's Analytical, Clinical and Manufacturing Laboratory, Calcutta, N K Kurup, L M F, Medical Officer in Charge, District Hospital, Parassala, Captain J C De, I M S, Medical College, Hospital, Calcutta, Dr Nisanath Ghosh, M D, Kohima, Assam

Original Articles.

THE THERAPEUTICS OF THE CINCHONA ALKALOIDS

BY R N CHOPRA, MA, MD, (Cantab),
MAJOR, I M S,
Professor of Pharmacology, Calcutta School of Tropical Medicine

PART II

The Cinchona Alkaloids in Malaria.—Malaria is of all diseases, the greatest source of sickness and invaliding in tropical and sub-tropical climates During the Great War it was responsible for a tremendous loss of effective manpower In this country there are few places where it attains such a marked degree of intensity and virulence as, for instance, in South Italy or Salonica, yet the disease is so wide-spread that India ranks as the most malarious country in the world and this is amply borne out by the statistics The thorough study of the action of the cinchona alkaloids is therefore of vital importance to every medical man in this country

Binz, long ago from his researches on quinine and the protozoa predicted that the organism causing malaria belonged to the protozoa and this was verified when the plasmodium was discovered by Laveran Examination of blood containing malarial parasites on the warm stage of a microscope in the presence of 1 in 10,000 quinine solution shows slowing, and finally arrest, of their amœboid movements If quinine is given by the mouth this inhibition and stoppage of movements also takes place, but generally not until a few hours after ingestion The parasites become granular, lose their affinity for certain stains and die The cinchona alkaloids are found not to attack the parasites in all stages of their development , as a rule it is the asexual forms which are more vulnerable

The life of a parasite depends upon the life of its host , if the host dies, the millions of parasites living in it die also Conservation of the life of the host is therefore of the utmost importance to the parasite for its own self-preservation This is accomplished by a decrease of the rate of multiplication or by formation of non-multiplying forms such as gametocytes from merozoites of the asexual cycle. The brake-like action of the gametocytes on the asexual multiplication rate in this way establishes an equilibrium, which is beneficial alike to the parasite and to its host This is illustrated in untreated cases of malignant tertian infection, in which as soon as gametocytes appear in the blood the fever subsides A patient suffering from malaria therefore becomes cured of the disease after a fairly long period, provided of course that he does not become re-infected during this time A large number of cases after leaving the tropics are generally cured within a couple of years, though one comes across cases which may persist for five years or more

Natural cures are therefore brought about by excessive gametocyte production A second factor also comes into play and that is the senility of the gametocytes brought about by long residence in non-malarious countries Gametocytes can only multiply in the stomach of anophelines and unless they leave the host under favourable conditions, they die or are destroyed in the spleen

Artificial cures are produced by the administration of certain alkaloids of cinchona bark, which act by destroying the asexual parasites, gametocytes being little affected Two main factors are here chiefly concerned, *viz*, the rate of multiplication of parasites and the percentage of each brood destroyed It is known that malignant tertian parasites multiply at the rate of 8-12 merozoites in 48 hours and are vulnerable to the action of quinine, whilst the benign tertian parasite forms 16-24 merozoites in the same period and is destroyed with more difficulty That this difference in the rate of multiplication is not the only factor concerned is evident from the fact that the quartan parasite, which forms 8-12 merozoites in 72 hours, is very resistant to quinine

The percentage of each brood destroyed by administration of these alkaloids is therefore an important factor in cure It has been calculated that an adult man of 68 kilograms weight possesses about 25,000 billion red corpuscles, and Ross found that in severe infections as many as 12 per cent of these were infected with parasites, giving a total number of roughly 3,000 billion infected R B Cs When the parasites fall below 250 millions, *i e*, one parasite in 100,000 erythrocytes, which is the limit diagnosable by the microscope, they produce little or no symptoms Theoretically one parasite would multiply sufficiently to produce fever in three weeks' time and, therefore, to get a complete cure every parasite should be destroyed From clinical experience one knows that in latent malaria a large number of parasites can exist and multiply in the body without producing apparent symptoms

Any condition which lowers the vitality of the host will convert the latent into active disease.

As regards the rate of destruction of parasites, we know that a single dose of quinine does not cure, but a series of doses have to be given In the case of malignant tertian infections experience has shown that the course has to extend over a month to effect a complete cure From this it would appear that the rate of destruction must be below 100 per cent, otherwise a few intravenous injections would effect a complete cure By calculation it has been found that the destruction rate is 95 per cent, as otherwise the course of treatment would have to be prolonged for more than one month to effect a complete cure In cases of benign tertian infections

Rennie, Acton, Curjel and Dewey found that even after a course of treatment lasting for four months only 50 per cent of cases were cured Our every-day experience of the treatment of malaria with quinine shows that it causes a rapid amelioration of symptoms in both malignant and benign tertian types of fever and parasites disappear from the peripheral blood According to Ross this effect is due to reduction of the parasites from 3,000 billions or more—(febrile stage)—to 250 millions or less (afebrile stage) Under such circumstances the rate of destruction by quinine of benign tertian parasites should be about 90 per cent These workers at Dagshai found the cure rate to be, after one month's treatment with quinine 20 per cent, with cinchonine 40 per cent, with cinchona febrifuge 50 per cent and with cinchonidine and quinidine 60 per cent Thus the last named alkaloids must cause a greater percentage of destruction of each generation As the rate of multiplication of benign tertian parasites is twice that of malignant tertian, the treatment should be carried on for two months instead of one as in the former class of cases

Phases of cure—In the production of artificial cures several factors have to be taken into consideration The immediate effect of giving the alkaloids is to cause a rapid disappearance of asexual parasites from the peripheral blood and relief of symptoms Too much importance however should not be attached to the picture presented by the peripheral blood, as this gives us little indication of what is happening in deep seated foci such as the spleen The curative effect varies with the particular alkaloid used and the species of parasite present In malignant tertian infections schizogony occurs in the deeper vessels and the schizonts, which are adhesive, form clumps and block the smaller vessels of the brain and intestines giving rise to pernicious symptoms Administration of quinine causes the disappearance of trophozoites within 24 hours after the first dose, but gametocytes if present are not affected at all, as they have been found to exist for as long as forty days after commencing treatment and are still able to undergo sexual reproduction in the stomach of the anopheline Acton has demonstrated that if the source of supply of asexual parasites is destroyed and the patient put on to ordinary tonic treatment, with no quinine whatever, the gametocytes which are present either die of senility within a few weeks, or are destroyed by the cells of the body, the patient becoming completely cured

In benign tertian infections the whole of the asexual cycle takes place in the peripheral blood, and when quinine is given the young trophozoites disappear within 24 hours after the first dose, but the older ones and the developing schizonts are not so easily affected They can be seen up to 48 hours, sporulation is not completely prevented, and a slight attack of fever is often noticed on the third day The gametocytes disappear from the blood in 4-5 days, showing that they are less resistant to quinine than are the malignant tertian gametocytes

The method of administration is an important factor in the rapidity of cures, the intravenous is the most rapid, next comes the intramuscular and last of all the oral method As regards the various alkaloids of cinchona bark, it has been definitely proved that amorphous alkaloids of the quinoidin type have little effect on the parasites whilst the crystallizable alkaloids are the chief active principles and of these the most effective are cinchonidine and quinidine Sometimes it happens that during the course of treatment, parasites reappear in the blood or symptoms become active again This means either that the patient is avoiding treatment, or the interval between the doses is too long, or the alkaloid is not being absorbed I have never come across a case of benign or malignant tertian in which the asexual forms did not disappear from the peripheral blood after administration of proper doses of quinine

How quinine acts—As has already been pointed out, Ramsden's researches have shown that when quinine is injected intravenously, 90 per cent of it disappears from the blood in one minute King and Acton experimentally estimated the concentration of quinine in the blood Fifteen grains of the alkaloid were taken on an empty stomach, 5 c c of blood was removed from a vein and the quantity of alkaloid estimated every hour They obtained the following results —

Time of examination	Quinine concentration in blood	Total quantity	Percentage of dose taken
1 hour after ingestion	1 in 150,000	33 mgm	3 3%
2 Do	1 in 187,000	27 „	2 7%
3 Do	1 in 225,000	22 „	2 2%

Ordinarily it is very difficult to bring the concentration in the blood up to 10 mgms per litre, the highest figure obtained experimentally being 16 5 mgms, which was associated with very severe symptoms of poisoning Even this concentration experimentally maintained for 48 hours failed to effect a radical cure in benign tertian malaria How then is the destruction of parasites brought about ?

The malarial parasites are *Hæmosporidia* and as far as is known only live in the red blood cells The only time when they are free is when the mature schizonts rupture, but the merozoites soon attach themselves to new corpuscles It is possible that quinine may destroy them by changing the erythrocyte in some way and making it an undesirable habitation for the parasite, just as *E histolytica* will not ingest an emetinized R B C The merozoites are thus prevented from entering the red cells and therefore must perish If this were true one would expect larger doses of quinine to be more efficacious because of the special affinity of the erythrocytes for quinine, of which they absorb more than

50 per cent of that circulating in the blood irrespective of its amount but this is not borne out by clinical experience

The parasites may be destroyed inside the red cells It has been pointed out that the action of quinine is most potent on the young parasites, less on mature asexual forms and practically nil on the gametocytes and this would appear to be inconsistent with this view. Parasiticidal action may take place in the plasma, when the merozoites are passing from one corpuscle to the other, and this view is supported by the fact that young forms are more vulnerable to the action of these alkaloids If the parasites once gain entrance into the erythrocytes, schizogony can be completed in spite of quinine If this were so quinine should be more efficacious when given during an attack of fever , but this is not supported by clinical facts

From this it is evident that it is difficult to understand how quinine cures malaria All that can be said is that the main action of the alkaloid is on the young parasite forms, probably at the moment when they are passing from one erythrocyte to another, or when they are adherent to but have not actually penetrated the erythrocyte Quinine and for that matter some of the other alkaloids of cinchona bark, even in high dilutions, inhibit the movements of malarial parasites, and it is quite possible that they may prevent their penetration into red cells and thus deprive them of nutrition

Cures and relapses—It has already been pointed out that one single dose or even a few doses of quinine will not cure malaria and that the destruction of the asexual cycle in man is a gradual and fractional process As it is not possible to determine the exact time when each brood is liberated the best plan is to give a continuous treatment, extending over a period of six to eight weeks so as to affect 10 to 15 generations of parasites Relapses in benign tertian infection cannot be due to insufficiency of quinine, as in some of Acton's experiments at Dagshai, it was administered under proper supervision for 3 to 5½ months , and, in spite of this, 50 per cent of cases relapsed Ramsden attributes relapses to the production of quinine-resistant forms, but this has been disproved by Acton's experiments at Dagshai, where he put a large batch of men on to quinine treatment, and if any case relapsed the whole course was repeated He found that the percentage of cures remained constant with from one to five courses of treatment It is obvious that if the resistance of either the parasite or the host had been altered there would certainly have been an alteration in the cure rate

It has also been argued that there are backwaters such as the spleen and bone marrow, where, owing to absorption of the alkaloids by the tissues, quinine does not gain access and the parasites go on multiplying unhindered Against this view is the fact that in malignant tertian infections where schizogony occurs in the deep-seated areas referred to, quinine is effective , whilst in benign tertian infections, where schizogony occurs in the peripheral blood, it gives a cure rate of only 20 per cent

No satisfactory explanation can therefore be offered at present, and all that can be said is that relapses are due to incomplete destruction of the asexual cycle by quinine

Selective action of the cinchona alkaloids—It has been proved by Acton's researches that although the crystallizable alkaloids affect both forms of parasites and cinchonine and quinidine (dextro-rotatory), have a specially marked action on the benign tertian forms, yet none of these alkaloids has any effect on the closely allied infection with halteridium in pigeons

Until quite recently quinine was employed in the treatment of all forms of malaria, but Acton has shown that whilst it cures 90 per cent of malignant tertian infections if properly administered, in benign tertian infections the cure rate is not more than 18-30 per cent after a two months' course Better results are obtained with cinchona febrifuge which contains the total alkaloids, the cure rate going up to 50 per cent From this one is justified in concluding that there must be alkaloids other than quinine present in the bark, to which this enhanced cure rate may be attributed These other alkaloids were tested individually and it was found that cinchonidine and quinidine in ten grain doses twice daily cured 60 per cent of benign tertian infections after a course of three weeks' treatment and therefore these are the alkaloids most suitable for cure The di-hydrides, *viz*, hydroquinine and hydroquinidine are recommended because they are more stable , they are less readily oxidised outside the body , and will presumably be less affected by the tissues of the body and so will maintain their parasiticidal action longer than quinine and quinidine

The salts of the cinchona alkaloids—We have seen that all the alkaloids of cinchona bark are di-acid bases and form two series of salts, *viz*, neutral salts and acid salts

Bi-hydrochlorides of the alkaloids are very freely soluble in water and for this reason are employed for intravenous and intramuscular injection , mono-chlorides are not so soluble The sulphates are very insoluble in water but are fairly soluble in acid solutions and on account of their cheapness are extensively used for oral administration The acid sulphates rank in their solubility next to the acid hydrochlorides and are very suitable for internal medication Bi-hydrobromides are very expensive, but do not give rise to cinchonism so readily and are especially suitable for persons with deafness They are also said to be less depressant to the medullary centres when given intravenously Aristochin contains 96 per cent of quinine base and is tasteless and does not upset the stomach Euquinine is also tasteless but contains only 50 per cent of the

base and therefore the dose should be double that of quinine, it is very suitable for children

Dosage—In countries where malaria is non-existent, very small doses of quinine, such as 2-3 grains, are prescribed, but such small quantities are useless in controlling malaria and may give rise to idiosyncracies In tropical countries the tendency is to give doses which are too large. The experience of most clinicians in this country is that thirty grains by the mouth in 24 hours always controls malarial fevers If it does not, either the method of administration is at fault or the diagnosis is wrong After the fever has subsided, ten grains twice a day during the rest of the course is in most cases sufficient The course should last at least one month in the case of malignant tertian infections and two months in benign tertian Intramuscularly 0 5 gm or 7½ grains daily or every other day may be given in cases which do not take quinine well by the mouth Intravenously 7½ to 15 grains should be given in urgent cases

Synergists of quinine—Quinine is often given in combination with arsenic in the treatment of chronic forms of malaria, especially where the attacks occur at long intervals, and the combination is decidedly more efficient than is quinine alone In this country and also in East Africa many practitioners give injections of soamin or other organic arsenical compounds in cases of malaria which have resisted quinine treatment A single injection of 0 5 gm of novarsenobillon can control paroxysms of fever with disappearance of the parasites from the peripheral blood in a day, but they reappear and fever relapses unless quinine is also given It is probable that the arsenic ion acts purely by increasing the vitality of all the tissues in general and of the blood-forming organs in particular, rather than by any specific action on the parasites

Methylene blue has been used in cases of quartan fever which do not react to quinine, and its combination with quinine is said to prevent further attacks

With the belief that the re-appearance of malarial parasites in the peripheral blood, especially in chronic cases, renders them more vulnerable to the action of quinine, certain substances have been employed as activating or provocative agents For this purpose benzol in doses of 0 1 to 0 5 mgm in gelatine capsules has been given by the mouth and injection of a few minims of adrenalin has also been recommended, but the efficacy of both is doubtful They act by producing a relapse of the fever and re-appearance of parasites in the blood

Modes of administration—The clinical condition of the patient is the best guide as to what method should be adopted for the administration of quinine The condition of the tongue is an excellent index to the state of the gastric mucosa In ordinary attacks of fever the tongue is moist and slightly furred, and quinine taken by the mouth will be rapidly taken up from the gut In cases in which the tongue is red, dry and cracked, quinine is absorbed badly and should preferably be given intramuscularly In cases of irritability of the stomach or bilious vomiting, which often accompany malignant tertian infections quinine by the mouth is of no use whatever as it is not retained by the stomach

Provided that the circumstances are favourable, quinine given orally is as efficacious as by injection as regards prevention of relapses Castellani has recommended that the drug should be given *four hours* before the expected attack, *i e*, at the time when sporulation is due, but from Acton's experiments it would appear that the best time to give it is one hour before, so that at the time of sporulation it will be circulating at its maximum concentration It should be remembered however that rupture of the schizonts is very irregular and goes on for 5 or 6 hours It has been amply proved by experience that the best way to give quinine is to give it in divided doses of 10 grains two or three times a day, ½ to 2 hours after a meal

Intramuscular injections are very *simple* and *safe* and should be employed where oral administration is contra-indicated, but it is advisable not to adopt this method as a routine practice The necrotic and other effects of intramuscular injections of the cinchona alkaloids are perhaps not fully appreciated by the general practitioner Acton and I carried out a series of experiments on rabbits and guinea-pigs to determine these effects Bi-hydrochloride of quinine, in the concentration in which it is used clinically, produced within a few hours of injection very intense œdema of the subcutaneous tissues and of the muscles around the site of injection Hyperæmia of the vessels was quite marked and hæmorrhages were also present in the substance of the muscles The alkaloid base was precipitated in the tissues at the site of injection and the muscle and fascia in a large zone around were friable and necrosed These effects were well in evidence on the third day, but by the sixth day the œdema and hæmorrhages had disappeared completely, whilst the necrotic tissues were still visible on the tenth day, although a good deal of absorption had taken place

Some authorities have laid stress on the danger of producing tetanus by intramuscular injections Semple believed that migratory cells such as leucocytes pick up tetanus spores from the intestine, lodge them in the necrosed tissue and thus produce a nidus for the bacilli to grow This however is wrong as Acton has shown that owing to the powerful negative chemotaxis set up, no migratory cells come anywhere near the site of injection and further, the necrosed tissue is replaced by fibroblasts of the endomysium with a complete absence of migratory cells The only thing which can cause tetanus is faulty technique either in preparation of the solution or injection of it.

Intramuscular injections are considered by some to be superior to the oral route, with the idea that the drug has a stronger action on the parasites in the internal tissues, but this effect is probably due to greater certainty of absorption and maintenance of a more gradual and prolonged supply of the drug into the circulation from the precipitated base lying at the site of injection, whereas conditions in the bowel are not favourable, especially when fever exists

Cinchonine bi-hydrochloride has been largely used under the erroneous belief that pain and the other effects locally produced are much less than with quinine, and also that its absorption is much more rapid In our experiments we found that there was not much difference between the local effects produced by the acid hydrochlorides of the two alkaloids and there was no indication that cinchonine was absorbed more quickly

Intravenous injections are most efficacious in producing immediate effects on the parasites and on symptoms but they should only be employed in serious and dangerous cases of urgency, where the maximum effect of the drug is required to be attained at once, *e g* cerebral malaria When such symptoms appear intravenous quinine should be given immediately without loss of time and hesitation Many cases are lost owing to delay on the part of the medical attendant in applying this quick and efficient method of coping with grave symptoms In certain parts of the North-Western Frontier Province, where malignant tertian infections of a very severe type prevailed, solutions of quinine for intravenous injections were always kept ready and were given as soon as pernicious symptoms appeared, and very few cases were lost

The injections should be given well diluted so that they reach the heart in low concentration and slowly The best and the easiest way is to suck up the contents of a sterilized ampoule containing 0 5 gm of acid hydrochloride in a 20 c c syringe , fill it up with normal saline and inject it slowly, taking at least 5 to 10 minutes The patient should be kept lying down and the pulse should be carefully watched McCarrison has pointed out that quinine given intravenously in large doses affects the respiratory centre more gravely than the cardiac centre and advises the use of hydrobromides which he has found much less toxic than hydrochlorides He prefers that the injection should be controlled by blood-pressure observations, especially in weak patients, and recommends the preliminary injection of ether or the addition of 0 3 c c. of ordinary commercial adrenalin solution to the quinine injection

Experiments in vitro show that acid salts of quinine have a very marked hæmolytic action on the blood Acton found that even a 1 in 2,000 solution of quinine base has no hæmolytic action on washed corpuscles incubated at 37°C for 24 hours , but that hæmolysis was noticed when solutions of acid salts were employed in dilutions of 1 in 8,000 Injections of solutions of bi-hydrochloride given clinically undoubtedly cause some hæmolysis and are probably responsible for producing the rigors which often occur a few hours after these injections These however soon pass off and produce no ill effects

Some of the older writers advised that quinine should not be given during fever and even now this idea is prevalent among the lay public Needless to say it is only a fallacy perpetuated by ignorance

Quinine prophylaxis in malaria—For prophylactic purposes quinine is given with the idea that by its presence in the blood it will kill the sporozoites when injected by the mosquito , but there is little evidence to support this view The gametocytes of the malignant tertian parasite are much less readily acted on by quinine than are those of the benign tertian and therefore there is more chance of mosquitoes being infected from malignant tertian cases taking quinine

There has been much difference of opinion expressed lately as regards the employment of quinine as a prophylactic measure against malaria Quinine is very expensive nowadays and when given prophylactically on a large scale, as in the case of the army in India, the cost is very great It may be said at once that it is absolutely useless, if it is given in the way it usually is, without any regard to seasonal variations in temperature It is obvious that if prophylactic doses are to be of any use they should be commenced as soon as infections are likely to occur and stopped when this danger is over, and this can only be determined by noting the wet-bulb temperature readings

Hodgson first noticed the relationship between the temperature and humidity of the air in connection with malaria He observed that there was a marked increase in the incidence of malaria a fortnight after the wet-bulb temperature had remained between certain points, and that this increase lasted as long as the temperature remained between these points Any rise or fall of wet-bulb temperature above or below these two limits produced a decrease in incidence of the disease Although the exact limits have not yet been worked out, they roughly correspond to the temperature of 18° to 22°C, between which flagellation of the male and fertilization of the female gamete takes place , whilst the temperature of insects such as mosquitoes corresponds with the wet-bulb thermometer Now if flagellation and fertilization do not take place, the parasite cannot undergo its extra-corporeal cycle in the mosquito for the transmission of sporozoites to the human host Prophylaxis should therefore start when wet-bulb reads approximately 18°C and stop when it exceeds 22°C

The second point to be considered is whether prophylactic doses should be taken daily or intermittently A dose of quinine takes 41 hours to be eliminated from the body, and if a number of doses are taken, excretion continues for about a week From this one can reasonably

conclude that continuous doses are the best and that quinine should be taken daily in doses which are effective in preventing relapses and can be borne without disturbance of health, *viz*, 10 to 15 grains after a meal

A third factor which should not be overlooked is that benign tertian infections occur in the early part of summer, whilst malignant tertian infections take place at the end of it, extending well into the winter months, right up to October and November Prophylactic doses will therefore have to be taken practically throughout the year, with the exception of perhaps two or three mid-winter months It would therefore appear that other preventive measures such as the use of mosquito nets, electric fans which keep off mosquitoes, etc, are preferable

Quinine and Blackwater fever—There are many examples of drugs which have a destructive action on the red blood cells and arguing from this many authorities consider quinine to be, in some way, connected with the production of this disease This however is not borne out either by clinical history or animal experiment Blackwater fever is known to have existed in Europe before quinine was introduced Bi-hydrochloride of quinine in vitro has an undoubted hæmolytic action on the erythrocytes, but such concentrations as cause hæmolysis cannot be attained in the blood with therapeutic doses Some observers attribute the condition to lowering of the osmotic pressure of the plasma by quinine, allowing water to pass through into the erythrocytes, which swell up and rupture Others say quinine sulphate is the exciting cause by its action on the corpuscles, whose stroma has been injured by the malarial parasites and hæmolysins

There is no doubt as to the existence of both malarial hæmoglobinuria and of quinine hæmoglobinuria, but blackwater fever seems to be a definite entity and a specific disease due to some organism probably of the nature of a piroplasma In certain parts of East Africa and especially on the northern boundary of Portuguese East Africa, I came across a large number of cases of blackwater fever, which from microscopic examination of blood could be divided into two groups, though so far as clinical symptoms were concerned no differentiation was possible In one group of cases malarial parasites were found in abundance in the blood, 10 to 15 per cent of the red corpuscles being infected In these injections of quinine were beneficial and quite a large number of cases recovered The second group consisted of cases in which no malarial parasites could be detected in the blood and in these the administration of quinine did more harm than good and the patients usually succumbed Whether this condition was due to any specific infection or whether it was a later stage of the first group, when all the parasites had disappeared from the blood because of degenerative changes in the body of the erythrocytes, it is difficult to say

Stress has lately been laid on combining alkalies such as carbonates or bicarbonates of sodium and potassium with quinine in the treatment of cases of malaria showing a tendency to hæmoglobinuria, the idea being that these drugs inhibit the hæmolytic action of the cinchona alkaloids This procedure has not yet received sufficient trial in this country

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CORRECTION

In part I of the above paper *I M G*, Nov 1922, p 403, lines 54 and 55, please read "1 in 50,000" for "1 in 5,000" and "1 in 5,000" for "1 in 50,000"

AN ANALYSIS OF THE CLINICAL PICTURE IN KALA-AZAR

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PART II

IN Part I of this paper I dealt with the history and subjective symptoms, in this part the physical signs will be analysed As in the first

part of the paper the cases are divided into kala-azar and non-kala-azar and each is sub-divided into five groups according to the length of duration of the disease

Group A —Cases of duration less than three months

Group B —Cases of duration three months or more but less than six months

Group C —Cases of duration six months or more but less than nine months

Group D —Cases of duration nine months or more up to fifteen months

Group E —Cases of duration longer than fifteen months

Nutrition —The state of nutrition of the patients was noted , the results of these observations are analysed in Table XIX

It will be seen that although thinness is not a distinctive feature of kala-azar, emaciation is three times as frequent amongst kala-azar cases as amongst other cases and that this distinction is very much more marked in the early stages of the disease

Anæmia —The degree of anæmia, gauged by clinical observation, from which the cases were suffering is analysed in Table XX

It is only amongst the cases of extreme anæmia that there is any decided difference in the two classes of cases Extreme anæmia is found decidedly less frequently amongst kala-azar cases than amongst other cases

The skin —Certain changes occur in the skin of a kala-azar patient , these changes are possibly trophic in nature They include, (*a*) the increased deposition or the apparently increased deposition of pigment on the forehead and temples, (*b*) general dryness and roughness of the whole skin surface and (*c*) falling of the hair The figures for these are given in Tables XXI, XXII and XXIII

TABLE XIX

Nutrition	Emaciated		Thin		Normal		TOTAL	
	K A	Non K A	K A	Non K A	K A	Non K A	K A	Non K A
Group A	9		16	8	4	5	29	13
,, B	13		39	9	13	4	65	13
,, C	21	2	31	6	3	2	55	10
,, D	21	6	42	15	6	12	69	33
,, E	9	3	35	33	4	20	48	56
Percentage of Total	27 41%	8·8%	61 71%	56 8%	11 15%	34 4%		
Percentage of each with Kala azar	86·9%		70%		41%		65 2%	

TABLE XX

	No anæmia or slight anæmia		Obvious anæmia		Marked anæmia		Very marked anæmia		Anæmia 1 degree		TOTAL OBSERVATIONS	
	K A	Non K A	K A	Non K A	K A	Non K A	K A	Non K A	K A	Non K A	K A	Non K A
Group A	11½	5	11	2	3		2		3	4	30	11
B	22	8	16	7	14	2		1	12	1	74	14
C	17	4	18	3	10	4	1		16	3	67	14
D	23	10	22	14	10	3			14	5	69	32
E	16	16	12	10	10	7		4	11	14	49	61
Percentage of total	31 3%	29%	31 3%	34 35%	16 5%	12 %	1%	3 8%	26%	2 06%		
Percentage of each with Kala azar	70%		66%		74 6%		37%		67 4%		68 4%	

TABLE XXI

Pigmentation

Group	Total Observations		Number showing pigmentation		Percentage showing pigmentation	
	K A	Non K A	K A	Non K A	K A	Non K A
A	27	11	11	3	40 7%	27·2%
B	67	14	27	7	40 3%	50 %
C	50	11	22	3	44 %	27 3%
D	61	29	25	12	41 %	41 4%
E	44	58	20	24	45 4%	41 4%
TOTAL	249	123	105	49	42 17%	39 84%

TABLE XXII

Roughness of the skin

Group	Total Observations		Number with this condition		Percentage with this condition	
	K A	Non K A	K A	Non K A	K A	Non K A
A	27	11	10	6	37 %	54 5 %
B	65	14	27	5	41 5 %	35 7 %
C	56	11	38	6	67 9 %	54 5 %
D	66	30	41	9	62 1 %	30 %
E	44	58	25	33	56 8 %	57 %
TOTAL	258	124	141	49	54 65%	47 58%

TABLE XXIII

Falling hair

Group	Number with falling hair		Total Observations		Percentage with falling hair	
	K A	Non K A	K A	Non K A.	K A	Non-K A
A	28	11	6	3	21 4 %	27 3%
B	69	16	34	4	49 3 %	25 %
C	60	12	25	2	44 3 %	16 7%
D	68	28	31	10	45 6 %	35 7%
E	40	52	21	18	52 5 %	31 %
TOTAL.	265	119	117	37	44 15%	31 1%

It will be noticed that the pigmentation of the skin from which kala-azar derives its name, is not much more frequently seen in this disease than in associated conditions Roughness of the skin is a little more frequently seen in kala-azar cases and falling of the hair is a sign very distinctly in favour of this diagnosis

Pulsation of carotids—Visible pulsation of the carotids has always been considered a point in favour of a diagnosis of kala-azar The figures given in Table XXIV show that this sign is present in a very large percentage of the kala-azar cases but is also present, though in not quite so large a percentage, in a number of non-kala-azar cases

TABLE XXIV

Pulsation of the carotids

Group	Total observations		Number with pulsating carotids		Percentage with pulsating carotids	
	K A	Non K A	K A.	Non K A	K A	Non K A
A	30	11	27	7	90 %	63 6 %
B	71	14	55	9	77 5%	64 3 %
C	56	12	39	10	72 2%	83 3 %
D	61	30	54	18	88 5%	60 %
E	46	55	40	35	87 %	63 6 %
TOTAL	262	122	215	79	82 06%	64 7o%

The legs—Certain changes occur in the bone marrow in kala-azar and it has been suggested that the glossiness of the skin over the tibiæ and the pitting of the periosteum of the tibiæ that is noticed in a number of kala-azar patients might be associated with these changes The presence or otherwise of these signs was noted and the figures are given in Table XXV Oedema of the feet will overshadow these conditions so I have given the figures for the presence of this condition in the same table

TABLE XXV

Oedema of the feet, pitting and shininess of skin over tibiæ

Group.	Oedema of feet,		Pitting of skin over tibiæ		Shininess of skin over tibiæ		Total observations	
	K. A	Non-K A	K A	Non-K A	K A	Non-K A	K A	Non-K A
A	3		14	30	10	4	27	11
B	14	6	30	17	27	5	73	17
C	13		34	7	30	8	61	11
D	7	4	32	4	40	15	67	30
E	9	10	24	4	23	30	46	56
Percentage of Total	16 4%	16%	48 9%	49 6%	47 4%	49 6%		
Percentage of each condition associated with Kala-azar	69 5%		68 7%		67 3%		68 7%	

There does not seem to be any diagnostic significance in these conditions

Congestion of abdominal veins and ascites—Congestion of the veins on the upper part of the abdomen and on the lower part of the thorax is noticed in a number of cases and is usually seen in conjunction with liver enlargement

Ascites which can be easily demonstrated clinically is not common and its presence is a point of little diagnostic significance

TABLE XXVI

Congestion of abdominal veins and ascites

Group	Congestion of abdominal veins		Ascites	
	K A	Non K A	K A	Non K A
A	6		1	
B	7	1		
C	11	2	3	
D	13	4		2
E	11	6	3	1
TOTAL	48	13	7	3
Percentage of total observations	16 %	9 3%	2 31%	2 14%

Congestion of the abdominal veins is a condition seen nearly twice as frequently in kala-azar cases as in non-kala-azar cases

The tongue—Figures for the condition of the tongue, (clean or otherwise,) are given in Table XXVII

TABLE XXVII

The tongue

Group	Total observations		Number with clean tongue		Percentage with clean tongue	
	K A	Non K A	K A	Non K. A	K A	Non K A
A	23	9	15	5	65·2 %	55 5 %
B	48	12	31	4	64 6 %	33 3 %
C	42	7	29	5	69 %	71 4 %
D	48	19	28	11	58 3 %	57 9 %
E	30	37	19	18	63 3 %	48 6 %
TOTAL	191	84	122	43	63 87%	51 19%

A clean tongue is much more frequent in kala-azar patients than in the others and this distinction is more marked during the first six months of the disease, where 36 per cent of kala-azar cases had dirty tongues against 57 per cent of non-kala-azar

The pulse rate—The pulse rates were divided roughly into two groups, rates of 100 per minute or less and rates over 100 per minute Table XXVIII gives these figures,

TABLE XXVIII

Pulse rate

Group	Total observations		Number with rate of over 100 per minute		Percentage with rate of over 100 per minute	
	K A	Non K A	K A	Non K A	K A	Non K A
					Per cent.	Per cent
A	28	9	22	9	78 6	100
B	63	7	53	5	84 1	71 4
C	55	8	44	4	80	50
D	63	25	33	13	52 4	52
E	33	42	21	18	63 4	42 9
Total	242	91	173	49	71 48	53 84

The rapid pulse is much more frequent in kala-azar than in the other conditions This difference is much more noticeable after the first three months of the disease

Splenic enlargement—Tables XXIX and XXX give the degrees of splenic enlargement in kala-azar and non-kala-azar cases respectively

TABLE XXIX

Splenic enlargement

Kala-azar

Size.	A	B	C	D	E	Total	Percentage
							Per cent.
"Palpable"		1		1		2	0 66
1—2 ins		4	—	1		5	1 7
2—3 ,,	2	9	3	1		15	5·2
3—4 ,,	11	11	13	13	3	51	17 8
4—5 ,,	4	16	9	13	4	46	16 1
5—6 ,,	4	13	19	15	10	61	21 3
6—7 ,,	4	11	10	18	9	55	19 3
7—8 ,,	2	3	6	4	8	23	8 0
8—9 ,,		4		2	7	13	4 5
Over 9 ins	—	3	1	5	6	15	5·2
Mean size	4 6	5 0	5 1	5 6	6 9	5 47 inches	

TABLE XXX

Splenic enlargement

Non-kala-azar cases

Group	A	B	C	D	E	Total per cent
1—2 ins			2			2 or 1 5
2—3 ,,	3	1	2	1	5	12 or 9 1
3—4 ,,	1	4	1	6	2	14 or 10 6
4—5 ,,	2	5	4	7	1	19 or 14 5
5—6 ,,	1	2	2	7	10	22 or 16·7
6—7 ,,	4	3	2	6	11	26 or 19·8
7—8 ,,	2	1		3	6	12 or 9 1
8—9 ,,		1	2	1	9	13 or 9·9
Over 9 ins				1	10	11 or 8 4
Mean size	5 1	5·0	4·7	5 45	7 1	5 95 inches

The measurements were made from the tip of the ninth rib on the left side to the most distant part of the spleen downwards from this point

The mean of the splenic enlargement is about half-an-inch greater in the non-kala-azar cases than in the kala-azar cases

According to the period of the disease the enlargement appears to show a more or less regular increase in kala-azar, whereas in the non-kala-azar cases it does not This is shown in Figure 4

Figure 5 shows that moderate enlargement of the spleen, 3 to 6 inches, is more often associated with kala-azar, whereas the extreme enlargement, 8 inches and over, is more often associated with the other conditions

Consistency of the spleen —The figures for this are given in Table XXXI

These figures show that soft spleens are associated with kala-azar, and hard spleens with the other conditions

Liver enlargement —The measurements were made in the same way as for the spleen but from the tip of the ninth rib on the right side instead of the left The 'means' were found by calculating the "palpable" livers as one-fourth inch and the "not palpable" livers as *minus* one-fourth inch Table XXXII gives these figures

The mean size of the kala-azar livers is greater than that of the non-kala-azar

Diagnosis of the non-kala-azar cases —As already stated if the case did not prove to be one of kala-azar it was sent elsewhere for a more definite diagnosis to be made, but very often in the course of examining the spleen puncture

TABLE XXXI

Consistency of the spleen

GROUP	TOTAL OBSERVATIONS		HARD		FIRM		SOFT	
	K-A	Non K-A	K A	Non K A	K A	Non K A	K A	Non-K A
A	30	11	6	4	7	4	17	3
B	75	16	17	4	17	5	41	7
C	61	13	18	6	15	3	28	4
D	69	30	12	15	17	9	40	6
E	49	57	19	26	11	15	19	16
Total	284	127	72	55	67	36	145	36
Percentage			25 35%	43 3%	23 59%	28 34%	51·05%	28 34%

TABLE XXXII

Liver enlargement

Group	A	B	C	D	E	Total	Percentage
							per cent
Kala-azar cases—							
Just palpable	5	22	14	18	13	72	24 05
Up to 1 inch	5	7	5	9	4	30	10 3
Up to 2 inches	7	28	18	27	13	93	32 96
Up to 3 ,,	5	6	11	9	9	40	13·74
Over 3 inches		6	4	5	5	20	6 87
Not palpable	7	8	9	7	5	36	12 37
Mean	1	1 25	1 36	1 36	1 46	1 31 inches	
							per cent
Non-kala-azar—							
Just palpable	6	3	5	9	16	39	29 12
Up to 1 inch	1	2	2	3	6	14	10 4
Up to 2 inches	2	5		12	12	31	23 14
Up to 3 ,,	1	5	3	2	9	20	14 92
Over 3 inches	1			2	8	11	8 2
Not palpable	1	3	5	4	6	19	14 18
Mean	1	1 33	0 65	1 17	1 45	1 24 inches	

AN ANALYSIS OF THE CLINICAL PICTURE IN KALA-AZAR—PART II

By L E NAPIER, MRCS, LRCP (Lond)

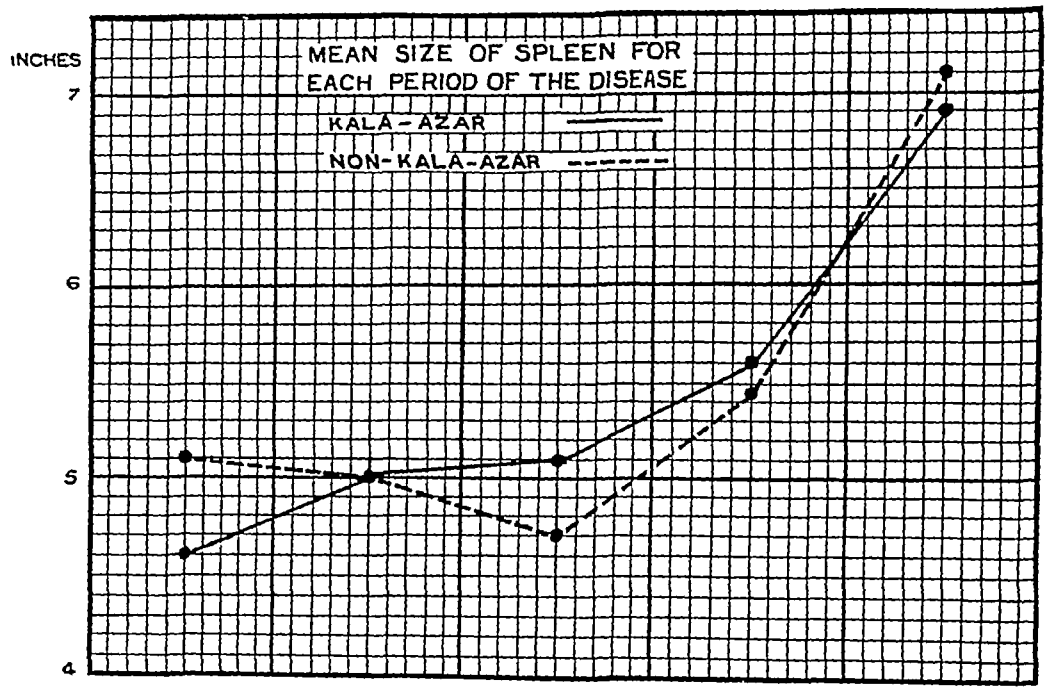


FIG 4

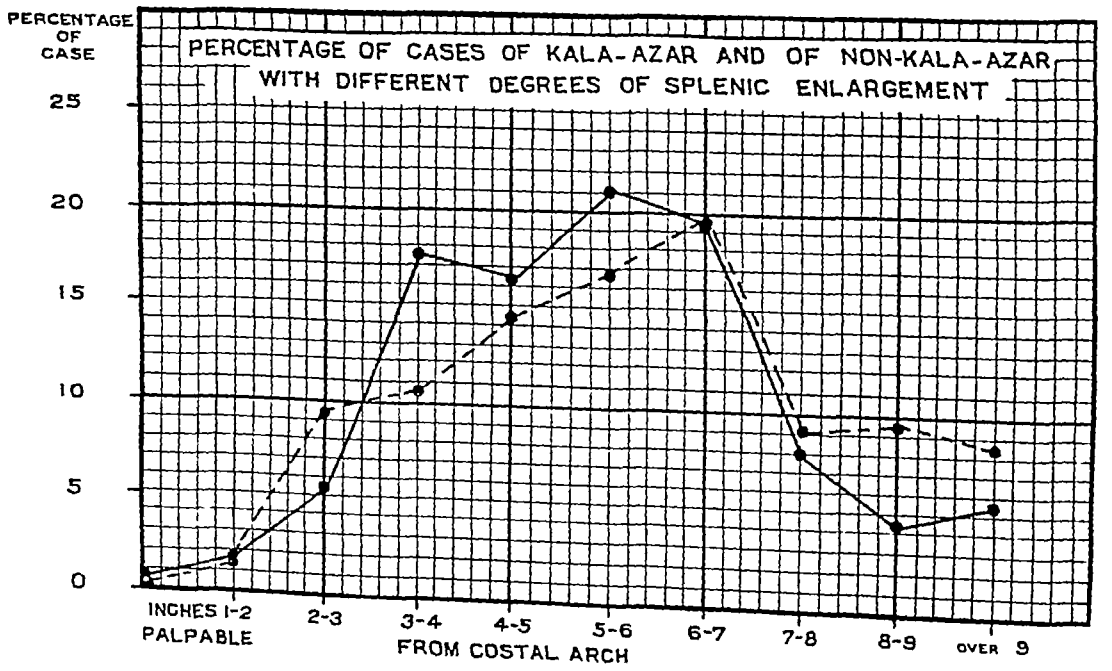


FIG 5

material or a blood film or in a few cases the sputum a definite diagnosis was made. Of the 140 non-kala-azar cases 23 were diagnosed in this way Table XXXIII gives these results

Probably about 80 per cent of the non-kala-azar cases were cases of recurrent malaria or malarial cachexia

TABLE XXXIII

Group	A	B	C	D	E	Total
Other diagnosis						
Malarial parasities—						
Kind not specified	1	1	1	2	3	8
Malaria, B T	1		3	3	2	9
Malaria, M T			1	1	1	3
Leukæmia		1			1	2
T B in sputum				1		1
TOTAL						23

Clinical diagnosis—In about half the cases a definite clinical diagnosis was ventured before the cases were further investigated The result of this diagnosis in relation to the presence or otherwise of *Leishman-Donovan* bodies in the spleen puncture smears is given in Table XXXIV

TABLE XXXIV

Cases that were diagnosed clinically as kala-azar

Group	Total	L D bodies found	L D bodies not found
A	19	18	1
B	37	35	2
C	38	37	1
D	44	41	3
E	32	19	13
TOTAL	170	150	20
Percentage		88·24%	11 76%

Cases that were diagnosed clinically as some condition other than kala-azar

Group	Total	L D bodies found	No L D bodies found
A	9	6	3
B	11	8	3
C	11	5	6
D	21	8	13
E	21	8	13
TOTAL	73	35	38
Percentage		47 94%	52·06%

These results suggest that although each point in the history and each clinical sign are individually very little in favour of one condition as against the other, the aggregate of evidence enables one to make a clinical diagnosis which is distinctly more accurate than mere guessing at a diagnosis with the odds two-to-one in favour of kala-azar They also show that a positive diagnosis of kala-azar can be made with more certainty than a negative one against it

Table XXXV gives a summary of the physical signs observed

TABLE XXXV

Summary of physical signs

Physical sign	Incidence in kala azar	Incidence in non kala azar	Sign in favour of diagnosis of	Whether slightly" "distinctly" or markedly in favour of the afore mentioned diagnosis
	Per cent.	Per cent		
Emaciation	27 41	8·8	Kala azar	Markedly
Anæmia, moderate	67 8	67 2		
Very marked	1	3 8	Non K A	Markedly
Pigmentation	42 17	39·84	Kala azar.	Slightly
Roughness of skin	54 60	47 58	Do	Do
Falling hair	44 15	31 1	Do	Distinctly
Visible pulsation of carotids	82 06	64·75	Do	Do
Oedema of feet	16 4	16		
Glossiness of skin over tibiæ	47 4	49 6		
Pitting of tibiæ	48 9	49 6		
Congestion of abdominal veins	16	9 3	Kala azar	Markedly
Ascites	2 34	2 14		
Pulse rate over 100	71 48	53 84	Kala azar	Distinctly
Spleen—				
Enlargement over 8 inches	9 7	18 3	Non K A	Markedly
Softness	51 05	28 34	Kala azar	Do
Liver				
Mean enlargement	1 31 inch	1·24 inch	Do	Slightly

My thanks are due to Dr P Murugesan, my assistant, for his careful help in taking the notes from which this analysis has been made

EXCEPTIONAL HERNIAS

By J W WANLESS, M D, F R C S,

Miraj, S M C

DURING the five years ending 21st December, 1921, 358 cases of hernia were operated in the Miraj Mission Hospital Of this number 37 or 10 5 per cent might be classed as complicated or exceptional That is to say cases that were either strangulated, irreducible or with contents difficult of reduction and retention within the abdominal cavity or those attended with intestinal adhesions preventing reduction or producing chronic intestinal obstruction I desire to consider the treatment of some of these exceptional hernias in this paper

Large Irreducible Inguinal Hernias—We have all seen these patients waddling about with huge swellings or tumours protected by the folds of the Indian *dhoti* which admirably lends itself to the imperfect concealment of these dangling masses which may be either elephantoid tumours or huge inguinal hernias many of them, too many indeed, are hernias owing to the fact that operation was not undertaken to prevent the large prolapse In India there seems to be a widespread belief that operation for the radical cure of hernia at any stage is either a dangerous procedure, results in sexual debility, or is attended with a large percentage of recurrences Patients, those in whom no contra-indication to operation exists, have an acceptable ally in their antipathy to operation on the part of the truss maker An ill fitting truss is frequently harmful, painful, or becomes more or less of a nuisance and is often cast aside with the result that the hernia continues to increase in size until finally reduction becomes very difficult or impossible As more and more of the intestine escapes and continues to remain outside the abdominal cavity, the space within the abdomen formerly occupied by bowel and omentum shrinks or is encroached upon by subperitoneal fat, and replacement becomes more or less impossible Many surgeons decline to operate upon these patients because of the admittedly and obviously increased risk due to the difficulties of reposition and maintenance of the hernia contents within the abdomen Some of these patients should undoubtedly be considered inoperable These are the excessively fat, wheezy, chesty patients with fatty or dilated hearts or badly functioning kidneys For the rest there are few in our judgment, if given sufficient time in a recumbent position with a restricted diet, who cannot be brought within the range of safe operability There is one condition however, compliance with which is eminently desirable before operation is undertaken namely, the complete or nearly complete reduction of the hernia and its temporary maintenance within the abdomen This may require several weeks or even months of preliminary preparation The patient must be put to bed and kept uninterruptedly in bed with the foot elevated in order to secure reduction of the hernia, and non-violent taxis of the hernia should be carried out several times a day by the patient himself aided by the nurse or medical attendant The diet should be restricted sufficiently to the limits of simple strength maintenance, and in the case of fleshy patients endeavours should be made to reduce fat by diet and moderate daily catharsis It is exceedingly disconcerting when having exposed a large hernial sac one finds the contents irreducible by reason of adhesion or by excessive development of mesenteric fat, or where if reduced under tension, it is not tolerated within the abdomen except under a condition of excessive respiratory embarrassment, requiring a re-herniation into the sac and necesssary closure without reconstruction The object of the preliminary treatment is therefore to obviate this possible situation This preliminary treatment will test the possibility of reduction, and once reduced, tolerance of the reduced contents may be secured by prolonging the periods of maintained reduction so that when the time for operation arrives one need not anticipate difficulty on the score of reduction and respiratory embarrassment A secondary advantage of the preliminary treatment is that the patient meanwhile becomes accustomed to the recumbent posture and post-operative complications such as hypostatic congestion of the lungs, post-operative intestinal stasis and retention of urine are less likely to ensue

There are cases in which failure to secure reduction of the hernial contents is due entirely to adhesions of the contents to the inner lining of the sac Even in these cases much can be done towards reduction by the treatment above suggested, especially if the patient is a stout one Whether in case of complete failure of reduction a given patient should be operated upon, will depend upon the relative size of the hernial protrusion and the comparative roominess of the abdominal cavity present or attainable The preliminary treatment will greatly aid in determining this point We have been agreeably surprised in several instances to find patients thought unfit for operation become fit within ten days to two or three weeks of suitable diet, recumbency, and mild catharsis The plastic closure of these hernias I shall refer to later

Large Umbilical Hernias—These hernias frequently present a problem quite as difficult as those just mentioned The writer recalls a patient who consulted him about fifteen years ago He was a very obese patient with an enormous umbilical protrusion which I

found impossible of reduction I was interested in the contrivance the patient had adopted to prevent the prolapse, but which did so incompletely, of what seemed to be the major part of his alimentary tract The contrivance was a veritable harness of pad and strappings reminding one of an enormously magnified tarantula The donning and removal of this apparatus must have consumed a not inconsiderable part of life's daily occupation The patient had travelled far and wide in a fruitless attempt to persuade a surgeon to undertake an operation for the radical cure of his hernia, and yet with added experience one would now be inclined to regard such a case as not altogether inoperable Such large umbilical or ventral hernias can be made susceptible of surgical treatment by the plan above suggested We have found, however, that complete pre-operative reduction of these hernias is often a very difficult or quite impossible proposition Adhesions to the sac are frequently dense and multiple in character, making the painless wearing of a pad or binder impracticable Complete preoperative reduction of the hernial contents is not however essential in the large umbilical hernia if one can but get rid of a good deal of subperitoneal fat as a preliminary measure and this, as already stated, is quite possible if the patient possesses sufficient determination and the surgeon reasonable patience We have in a number of instances carried out with satisfaction Dr Howard A Kelly's suggestion, and excised a large wedge shaped mass of fat in cases with very thick pendulous abdomens This (lipectomy) is done by use of 12" to 15" transverse elliptical incisions, just enough is removed to obviate suture tension in the final closure of the wound This fat out of the way, manipulations in the bottom of an otherwise deep wound are greatly facilitated The dissection must be carried back sufficiently on either side of the mid-line to freely expose not only the neck of the sac, but the recti muscles and fascia outward to the 'linea semilunaris' as well The sac must be completely dissected out and removed This is sometimes a tedious process owing to omental and intestinal adhesions In a recent case of a very large ventral (incisional) hernia there were two openings and three distinct pockets with an intestinal loop firmly adherent in the bottom of each one, all of which had to be freed before reduction was possible The edges of the hernial ring must be freed of adherent bowel and omentum, sufficient to permit of easy coaptation or preferably overlapping and closure by the Mayo or Noble methods Where the eages of the ring have been dissected free of bowel or omentum a separate suture of peritoneum is often very difficult or impossible of accomplishment, and after all unnecessary Having freed the ring sufficiently to permit of proper coaptation, no attempt is made to separate adherent omentum, or loops of bowel from each other or from the parietal peritoneum where such adhesions are apparently causing no obstruction, for the reason that these adhesions invariably re-form In the case of necessity raw areas are covered by the tacking of omentum over them or by the sliding of small mesenteric flaps Heterogenous grafts we believe to be failures for the most part In the final closure we use for the deep and chief line of sutures 20-day chromic catgut alternately with silver wire, or silver wire alone, and placed in the form of interrupted mattress sutures We generally find it feasible to employ the double-breasting overlapping method either vertically (Noble) or transversely (Mayo) Where there is a wide diastasis between the recti muscles or the opening is too wide for closure without tension this can be overcome by opening the sheath of the muscle in order to bring the recti muscles into apposition, or better still by diving the muscle sheath vertically on the lateral border to a disatnce of $\frac{3}{4}$" above and bellow the level of the hernial ring, and then by two short transverse fascial cuts at the extremities of these lateral incisions convert the anterior muscle sheaths into quadrangular flaps which are double breasted and closed by mattress sutures through the edges and bases of these flaps These methods failing, it is sometimes feasible to laterally loosen the muscles and anterior sheaths *en masse*, slide them medially and suture edge to edge by silver wire mattress sutures The remainder of the wound is closed by two to three layers of continuous or interrupted sutures loosely inserted so as to simply coapt the surfaces It is usually necessary to place two or three small strips of rubber tissue in the larger wound for drainage, to be removed in 36 to 48 hours

Sliding Hernias—The diagnosis of a sliding hernia cannot as a rule be made previous to operation A sliding hernia should be suspected when the hernia is incompletely reducible or when a truss does not retain it or the wearing of one is painful A sac is sometimes absent, in which case the swelling is not scrotal or, as in a case of our own, a sac may cover small bowel herniation while large bowel may remain uncovered by a distinct sac The main difficulty in operating on these hernias is the reduction of bowel and closure of the internal ring It is not ordinarily practicable to free and tie off the neck of the sac in the usual way except in the very early cases Excessive traction on the neck of the sac in early cases when applying the ligature may result in the inclusion, unnoticed, of bowel within the grip of the ligature We believe this happened in one of our own cases which was followed by a fæcal fistula

and where the sliding of bowel along the neck of the sac was so slight as to be unappreciated Ordinarily one must excise the sac distal to the bowel limit in the sac and then suture the cut edge of the sac, push the bowel and suture pouch up together and then suture the edge of the ring including muscle in the bite of the needle, using the finger as a guide In long standing cases where the bowel is attached well down into the wall of the sac and the protrusion is a large one we have found it best to first open the sac on exposing it, a plan we follow in all hernia operations, free the sac well up to the neck, then cut away the redundant portion beyond the bowel attachment, suture the amputated sac close to the bowel and reduce the remaining suture sac and bowel *en bloc,* finally closing the internal ring by suture of the muscular margin Inasmuch as the bowel mesentery fuses with the sac at the neck and for some distance distal to the neck, there is a danger of injury to the mesenteric vessels in the dissection of the sac and suture of the internal ring with care however this can be avoided It may be necessary to enlarge the ring upward in order to effect proper reposition of the protrusion It is important to avoid injury to the mesenteric vessels, and this we regard as an important feature of the operation A plastic operation on the mesentery we have never found necessary Furthermore it is not without risk in seriously impairing the circulation in the cæcum and terminal ileum which are the portions of the gut that participate in the sliding process I would like to add that the appendix invariably forms part of the herniated contents of the sac, and is usually either chronically or acutely inflamed and should be removed before reducing the bowel Having closed the ring the operation is completed by one of the usual plastic processes

Epigastric Hernia—A few years ago Moschevwitz of New York drew special attention to the prevalence of these hernias which were not till then well appreciated and which were often mistaken for indigestion or other gastric disorders These hernias appear between the umbilicus and ensiform cartilage, are often so small as to go unnoticed and frequently cause symptoms out of all proportion to their size In stout patients the only physical evidence of the presence of an epigastric hernia may be a slight conical bulge on coughing and determination of the ring by the finger tip In other patients the protrusion may be as large as a small lemon, though usually smaller Pain and distress on coughing or pain after meals often suggest indigestion or a gastric ulcer The contents consist of either subperitoneal fat or omentum, rarely bowel The treatment is simple and consists of removal of the sac When the hernia is small the removal of the sac is not always required Simple depression and closure of the ring suffices If in doubt regarding the contents of the sac it should be opened and contents, if of fat, removed and suture of the ring performed

Operation for Hernia in Infants and Young Children—I presume most of us in India in dealing with hernias in infants and young children of Europeans prefer to advise the use of a truss during the first few years of child life In the treatment of the children of ignorant village people in this country, I believe we must adopt a more radical course for the simple reason that few of these village people are able satisfactorily to employ a truss We do not hesitate to advise operation within the first year if the hernia is enlarging rapidly, and within the second year if the hernia is scrotal We have operated upon a considerable number of these little patients within the first and second year without a death, and with but one known recurrence and do not hesitate to recommend operation in every case where there is difficulty in controlling the hernia , provided, of course, there is no contra-indication other than age It is not ordinarily necessary to transplant the cord Exposure, freeing, ligation and removal of the sac is sufficient and can easily be accomplished within 15 to 20 minutes We usually apply a plaster of Paris spica over the dressing to relieve strain and protect the dressing from soiling by urine A piece of rubber tissue is placed between the dressing and the plaster, the dressing having been previously sealed by collodion or Tinct Benzoin Co The dressings are removed on the 8th day and the patient discharged

Strangulated Hernia—Methods of dealing with strangulated hernia are so well established as to require but little comment in this paper Surgical opinion is not entirely uniform as to the best method of dealing with perforation or impending perforation of the bowel In India where resistance to prolonged manipulation within the abdomen is relatively low, one feels that in these cases, beyond the release of the constricting band and the providing of fæcal drainage, manipulation is unwise as a preliminary measure The writer believes that in the end more lives will be saved by this simple measure than by preliminary resection of bowel in these circumstances

The Technic of Hernia Operation—That the final operation for inguinal hernia has not yet been agreed upon is evident from the continued publication of new operative principles and new methods or modifications of the existing procedures We have no new method of our own to offer We have tried most of the standard methods and after an experience of fifty odd cases with the Stellen operation we are more satisfied with this than with any method

so far employed The operation is a modification of the Bassini method and consists in a combination of the good points of several widely used methods The spermatic cord is transplanted as in the Bassini but is placed anterior to the external aponeurosis as in the original Halstead The internal oblique is sutured to Poupart's ligament as in the Bassini The external aponeurosis is overlapped, double breasted between the cord as in the Andrew's or Ferguson's operation, and sutures are placed above the internal ring as in the Coley modification of the Bassini method The objection to placing the cord anterior to the aponeurosis and immediately behind the superficial fascia for fear of injury was found to be without practical foundation in a very large number of patients operated on during the war The operation takes a little more time in its performance than the unmodified Bassini, but it provides a stronger reconstruction of the inguinal canal In hernias with large openings and poor attenuated musculature, splitting of the rectus sheath and the utilization of a portion of the rectus muscle or muscle sheath by suture of it to Poupart's ligament in order to reinforce the wall of the inguinal canal may be employed as an additional modification In these cases we employ silver wire sutures, For direct hernias we believe the Stellen operation offers a larger percentage of permanent cures than any method hitherto practised by us

I would mention by way of emphasis three points which should always be borne in mind in operations for the radical cure of inguinal hernia, namely (1) Indirect hernias are seldom scrotal (2) The bladder is often in contact with or occasionally within the sac of an indirect hernia and liable to injury in dissection (3) In indirect hernias a double sac frequently exists with the bladder fundus in close contact with the lower one and therefore also liable to injury or inclusion by sutures in making the plastic closure This is particularly the case where there is a weak or attenuated conjoined tendon

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ETHER IN THE TROPICS
A FURTHER NOTE

By A. HOOTON,

LT-COL., I M.S

Agency Surgeon, Rajkot

In a short article which was published in the *Indian Medical Gazette* of May, 1922, I described a special ether vapourising apparatus, designed by Dr K B Pinson, which seemed to me particularly adapted for use in the tropics, and which I had found very satisfactory in a limited number of cases in the West Hospital, Rajkot Dr Pinson has since written to me again with regard to further experience of his "ether bomb" and the following details will be of service to anyone who may be inclined to try it He has now employed the apparatus in about 5,000 cases, and extended use has confirmed his confidence in it to such an extent that he never employs any other means of administering ether As he says, "it has not once let me down in any way" More recently he has designed an intra-tracheal apparatus for use with the bomb The consumption over a considerable number of cases has worked out, he finds, at 4-7 ounces per hour of maintenance, anæsthesia having been first induced with some other anæsthetic If the apparatus and ether were used throughout, which he says it perfectly well might be, the consumption would come out somewhat higher, but personally I have given chloroform, out of a Junker's inhaler, for induction As a measure of economy he says it is as well to place a towel over the mask, and he finds that oxygen in small quantity, almost as a routine, is of advantage to the patient In the West Hospital we have not used oxygen With regard to ether for anæsthetic purposes, Dr Pinson's experience confirms my own contention in the previous note that the cheap methylated variety is for all practical purposes as good as need be It has been used in an enormous number of cases, and endorsed without any reservation by many expert anæsthetists, working in some of the most important hospitals in London and elsewhere, and particularly in times of stringency like the present it would appear an unnecessary extravagance for our hospitals out here, cramped as they are for funds, to use the more expensive "anæsthetic" ether It must be understood, of course, that the methylated variety will not pass the most rigorous tests for purity, but experience has shown that such impurities as exist in several well known brands may be disregarded Dr Pinson has found both McFarlane's and Howard's methylated ether satisfactory, he has also used ethenesal, but does not think there are any obvious advantages over the cheaper varieties I know of a large London hospital which worked for years on Salmon's methylated ether So there is evidently no lack of reliable sources of supply, though at the moment I am unable to quote actual prices There is one other detail to which he has called my attention It is not necessary to cool the bomb between cases, but only for re-filling, and it could be kept with safety in boiling water all day, if not over-filled, without either cooling or opening the valve

My correspondent closes his letter with the remark that no doubt the older closed methods of administration of ether are almost things of the past, and he is personally quite convinced that the open system at present so

popular is much inferior to vapour methods such as his own My experience of the latter enables me heartily to endorse this view

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NOTES ON RELAPSING FEVER IN BHAVNAGAR

By DR B N MEHTA, MB,

Medical Officer, Juvansingji Dispensary, Kathiawar

TWENTY-THREE cases of relapsing fever were admitted to the Juvansingji dispensary as out-door patients for treatment from the 14th of March to the 11th of May, 1922, seven in March, fourteen in April and two in May Twenty-two were Hindus and one was a Mahomedan Twelve were males and eleven were females Children under twelve were eleven, five girls and six boys The youngest patient was a female child eleven months old

All the cases occurred in lower class patients They were poor in circumstances and sanitation Eleven were members of the same family, all of them recovered

The first case was detected by microscopical examination of the blood of a female child ten years old who was brought to the dispensary by her mother for fever She was dull and apathetic, her spleen and liver were considerably enlarged As malaria was very prevalent in the town at the time the case was supposed to be of a cerebral type Blood films were examined and to my surprise spirochætes were found in them The spirochæte had three to four open curves with tapering ends It is very unlikely that any case of relapsing fever prior to this had come to the dispensary for treatment As malaria is very prevalent I had made a point of examining the blood of all fever cases to know what variety of malaria it was and secondly, as Bombay is considered to be the home of relapsing fever, I was always on the look out for it in Bhavnagar, which is a port on a creek of the Bay of Cambay in the Bombay presidency

The onset was not noticed in all cases But it was sudden in those which were seen at the beginning

The general appearance was dull and apathetic and some serious cases which were seen on the fifth or sixth day of illness were drowsy Headache was present in all cases in more or less degree, but it was not a prominent symptom

Fever—As all cases were not visited at regular intervals it was not possible to keep a regular record of the temperature In ordinary cases the temperature was remittent, whilst in serious cases it was continuous All the cases complained of a burning sensation all over the body

Delirium—Occurred in eleven out of twenty-three cases in the pyrexial stage Here I would like to mention a case which had delirium amounting to mania in an apyretic period To all intents and purposes clinically it was a case of relapsing fever, but as the patient was seen in the apyretic period the blood films did not show any spirochætes and it has accordingly been omitted from the relapsing fever cases

Thirst was excessive in many cases Vomiting was not noticed in more than two cases

The spleen was enlarged and tender in all cases

The liver was enlarged and tender in all but one The pain in the hepatic region was very severe in cases with jaundice, indeed one patient had had himself branded on the hepatic region The branding had relieved him of the pain temporarily

Jaundice was very marked in five cases, four died and one recovered The bowels were generally constipated, they were loose in four cases near the time of crisis

The tongue was red at the tip and edges and furred in the centre, having a bifid appearance at the tip in many cases as observed by Major Sinton in the July issue of the *I M G*, 1921 In severe cases it was dry and brown

The Respiratory system—Dry cough due to congestion of the pharynx was present in eight cases, bronchitic signs were present in four One fatal case had pleurisy with effusion in the left lung

Hiccough developed in one case which proved fatal

Circulatory system—The heart sounds were not affected except in one case which had a systolic bruit at the apex and pulsation in the epigastrium, giving great discomfort to the patient The pulse rose with the temperature and in serious cases it was very fast, feeble and small and the patients were dyspnœic

Epistaxis took place in two cases, both recovered

Eyes—There was slight congestion of the conjunctivæ in nearly all cases The pupils were contracted in all but two cases, both seven years old One patient complained of diminution of vision at the end of the first relapse

The urine was examined in only five cases, there was no albumen in it

The skin eruption was seen in one case It was in the form of macular spots about a dozen in number, reddish in colour and disappearing under pressure Some were on the front of the chest and others on the flexor surface of forearms

The first attack lasted from seven to ten days The first apyretic period lasted from two to seven days The first relapse lasted from three to eight days

In no case did a second relapse take place and no death occurred during a relapse

The crisis was marked with profuse perspiration, with a fall of temperature to below normal In some cases the patients were in an almost collapsed condition There was extreme weakness after the attack, but convalescence was short

Blood Findings—All cases were confirmed by examination of the blood The spirochætes were

abundant in all cases except one in which they were few and far between Four slides were examined from each case, two stained with Leishman and the other two with carbol-fuchsin The latter stain was found to be very convenient for rapid diagnosis, because no previous fixation was necessary and the spirochætes were stained in from half to one minute and no distilled water was required Place a few drops of carbol-fuchsin on the blood film and wait for from half to one minute, then wash off the stain with ordinary water, allow it to dry and then examine it It has one drawback that nothing more than the mere presence of spirochætes can be detected

Mortality—Four patients died, giving a mortality of 17 4 per cent, one female and three males, including a child of seven All of them had severe jaundice, delirium and a rapid and feeble heart, they had acute pain in the hepatic region One of the males had his deglutition affected twenty-four hours before death He could not swallow even fluids, though he was conscious till within a few hours before death

In addition to these twenty-three cases there must have been many other cases of relapsing fever in the town but they must have been mistaken for other concurrent fevers such as malaria, typhoid, and pneumonia

Treatment was symptomatic with liquor arsenicalis m 3 to m 5 in adults

It may not be out of place to insist upon the importance of microscopical examination of the blood in all fevers Had the blood not been examined in these cases the entire epidemic would have passed without detection

Here I may venture to say that not only the illness among cowherds in the town with its high mortality but also the fever raging in the surrounding villages was probably relapsing fever, as I heard that the patients had painful hepatic and splenic enlargements with jaundice and the usual remedy for the pain was branding

A Mirror of Hospital Practice.

A CASE OF FOREIGN BODY (FISH) IN THE AIR PASSAGES, REMOVED BY LARYNGO-TRACHEOTOMY

By MAUNG PO PE

Sub-Assistant Surgeon, Zigon, Burma

ABOUT 10 p m on the night of the 7th March, 1922, a Corinthee adult male, named Swami, was brought in a cart to Zigon Hospital for the treatment of urgent symptoms of dyspnœa, arising out of a most uncommon and peculiar accident

The man was a fishmonger by trade, and his residence a village near Nattalin He was returning home with a basket of fish which he bought from a fishery On his way he stopped to sell some of them When picking them out of the basket, a live fish leaped up suddenly and found its way into the back of his mouth, partly obstructing the breathing

A bystander observing the accident, tried his best to pull the fish out, but to no avail, the foreign body gliding further down the air passage, and increasing the suffocation

When he arrived at hospital about 7 hours after the accident he was in a distressing condition of obstructed breathing He was unable to speak, he held his head erect, and the neck straightened out and made frequent retching efforts to bring the foreign body out Glairy fluid and blood-tinged saliva flowed from his mouth Since there was no time to lose he was seated at once, and his mouth opened with a gag to ascertain the exact location of the foreign body

The greater part of the fish had gone down and only the caudal fin could be felt between the soft palate and the back of the tongue Traction with a laryngeal forceps failed to bring it out, as the stout pectoral and dorsal fins caught on the soft structures on pulling the fish backwards

The patient was quickly put on the table, and after a few whiffs of chloroform and painting with iodine, a skin incision, running from the cricoid down to the first two rings of trachea, was made exactly in the middle line The cartilages were then divided from below upwards towards the thyroid There was practically no hæmorrhage and division of the isthmus was found not to be necessary

The distressing symptoms of obstruction were immediately relieved and the patient breathed through the artificial opening As the foreign body was found too voluminous for the opening intended for its removal, it was extracted through the mouth by passing one finger to dislodge and lift it well upwards, and the other hand setting free the entanglement within the fauces The skin incision was next closed by sutures

The patient had slight aphonia and cough for two or three days and he was discharged cured on the 16th March, 1922

The fish measured 3 inches by 1½ inch at its broadest part It was of the species locally known as Nga-bye-Maw in Burmese

A CASE OF TRAUMATIC ANEURISM OF THE SPLEEN

By W L HARNETT, FRCS,

MAJOR, I M S

V G an Italian, aged 35, was admitted to the Presidency General Hospital, Calcutta on the 28th June, 1922, complaining of attacks of pain on

the left side of the abdomen for the past six months The patient was born in Sicily and had suffered from no illness of importance during his boyhood He denied having ever had malaria at this time He had lived in India for the past 18 years and had been employed on the railways for some years He is a shunter on the E I Railway at Allahabad

Previous History—In 1913 he was in hospital in Bombay for seven or eight months suffering from "fever," of the nature of which he was not informed He was discharged cured and had kept in good health since Three years ago he fell between an engine and the platform but managed to extricate himself, though the abdomen was so severely contused that he was laid up for a month after this accident

No history of venereal disease

History of Present Illness—For the past six months he had suffered from attacks of pain in the left iliac fossa, lasting about half an hour and passing off gradually The attacks came on quite suddenly at regular intervals and were in no way related to food They were of a griping character and he used to feel nauseated, but did not actually vomit during the seizures He was quite well between the attacks , the bowels were rather constipated and there were no urinary symptoms

On Examination—There was an oval, freely mobile tumour, about 4in × 2in in the left iliac fossa On the outer side of the tumour a blunt edge could be felt, towards the lower extremity of which was a notch The tumour was firm, elastic, dull on percussion and not tender It could be moved freely in the left half of the abdomen, down into the left iliac fossa and across as far as the middle line It could be replaced under the left lower ribs and once placed there could only be extruded again by the patient sitting up Handling the tumour did not cause any pain

The other abdominal organs were normal Urine, sp gr 1018, acid, no albumen, sugar, pus or crystalline deposit Nothing abnormal in the fæces Thoracic organs normal No pyrexia and no enlargement of lymphatic glands *Wassermann* reaction negative

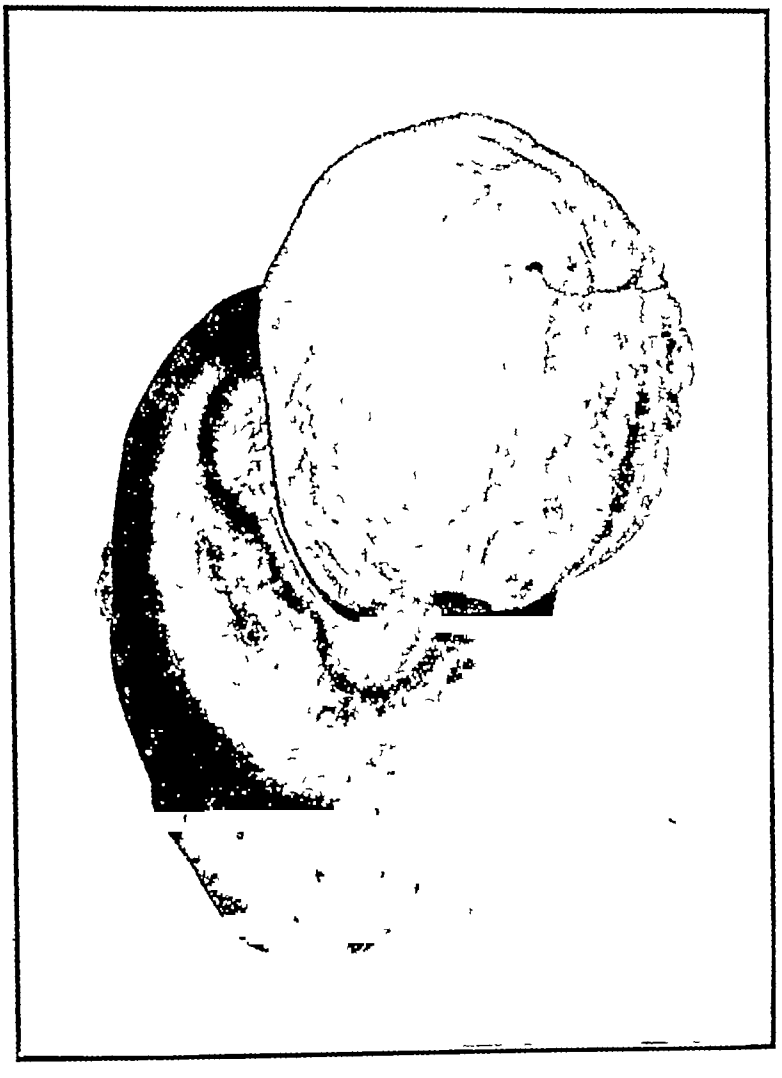


Fig 1—Appearance of the entire spleen

Blood Count—R B Cs 5,000,000
Hb 70 per cent
W B Cs 7,500 per cent

Differential Count

Polymorphonuclears	60 per cent
Large mononuclears	4 per cent
Lymphocytes	24 per cent
Eosinophils	12 per cent.

Examined under X-rays the tumour was found to cast no shadow The stools were searched several times for ova of intestinal parasites, but without success

The patient stated that the tumour sometimes disappeared for a few days and then suddenly reappeared This was evidently due to the tumour lodging temporarily in the ordinary situation of the spleen No splenic dulness could be percussed when the tumour was free in the abdomen, but impairment of resonance could be demonstrated when the tumour was replaced under the ribs

Operation was performed on 5th July 1922 — Under chloroform anæsthesia, the abdomen was opened by an incision to the inner side of the left rectus, extending from the rib margin to below the umbilicus the rectus muscle being displaced inwards The swelling proved to be the spleen, enlarged to about twice its normal size and having attached to its inner aspect a cystic, thin-walled, fluctuating swelling of a yellowish-white colour, incorporated with and appearing to protrude from the splenic substance The pedicle of the spleen was elongated, the vessels were large and tortuous and with the exception of a broad band of adhesions to the great omentum, there were no abnormal attachments to neighbouring organs The swelling, which was about the size of a tangerine orange, was too intimately incorporated with the spleen to admit of excision, splenopexy would have been useless without removal of the tumour, so splenectomy was decided on This was accomplished without difficulty Some trouble was experienced with the main pedicle, owing to slipping of the catgut ligatures which failed to get a secure hold on the flimsy broad pedicle, composed only of enormous vessels and peritoneum so that a good deal of hæmorrhage took place Eventually the pedicle was safely secured with interlocked silk ligatures A short outward incision at right-angles to the upper end of the vertical incision proved necessary, in order to gain sufficient room to deal with this hæmorrhage The abdomen was closed in the usual way



Fig 2 —The spleen on section, shewing the aneurismal cavity above

Convalescence was uneventful, the attacks of pain entirely ceased and the patient rapidly recovered from the loss of blood which occurred at the operation

On 18th July, 1922, the blood count was—

R B Cs	4,500,000
Hb	65 per cent
W B Cs	10,000

On the 15th August, 1922, the count was—

R. B Cs	5,000,000
Hb	70 per cent.
W B Cs.	12,500

Differential Count

Polymorphonuclears	46	per cent
Large mononuclears	1 25	,
Lymphocytes	37	,
Eosinophils	13 5	,
Transitionals	2 25	,,

He was discharged soundly healed on 17th August, 1922



Fig 3 —Micro photograph of a Section of the Wall of the Aneurism

Pathological note on the specimen, by Major Knowles, I M S —The case appears to have been one of what was originally a hæmatoma of the spleen, probably sustained at the time of abdominal injury three years previously The naked eye appearance of the tumour and of the spleen on section are shewn in Figs 1 and 2 Figure 3 is a micro-photograph of a section of the inner wall of the sac, stained by Iron-hæmatoxylin eosin It shews laminated clot in the cavity of the sac, an outer fibrous capsule covered by peritoneum, and no intima visible in any portion of the section The abdominal injury appears to have caused rupture of a splenic blood vessel which has gone on to subsequent formation of the false aneurism The contents of the sac in the fresh state were fluid, dark blood, loose clot and laminated clot firmly adherent to the wall of the sac

In 1907, the writer recorded (1) a case met with in the post-mortem room of St Thomas's Hospital, in which the whole spleen was converted into a sac 10in × 6in full of clot and altered blood, the remains of the splenic substance appearing as islets and bands of tissue dividing the cyst into loculi Sections of the walls of the cyst showed organising blood clot merging into fibrosed splenic tissue The patient had been admitted for aneurism of the popliteal artery and died from suppuration in the sac He had suffered from malaria, and the enlargement of the spleen had been noted during life

On looking up the literature of the subject, it was found that some 60 cases had been recorded up to 1906 Both serous and hæmorrhagic cysts are described, the latter being divided into a subcapsular form with walls formed by thickened peritoneum and organised blood clot, and a form in which the hæmorrhage takes place deep in the splenic substance, becoming encapsuled by fibrosed splenic tissue Both forms are considered to be due to rupture of an intrasplenic vessel with subsequent encapsulation of the extravasated blood

The case described above is an example of the subcapsular hæmorrhages , the history of malaria and of trauma, together with the microscopic structure of the wall leaving no doubt as to the mode of origin Arterial degeneration due to syphilis, which was such an important ætiological factor in the former case, was entirely absent in this case The attacks of pain were no doubt due to slight torsion of the pedicle

I have to thank Lt -Col Waters, I M S , Surgeon-Superintendent, Presidency General Hospital for permission to publish this case

(1) Harnett. *Lancet*, January 19th, 1907, p 148

REPORT ON CASES OF ANKYLOSTOMIASIS TREATED IN THE DISTRICT HOSPITAL, PENANG FROM 24-8-1921 TO 31-12-1921

By D C RICHARDS,

Asst surgn , l m s (*Singapore*)

Owing to the difficulty of carefully observing cases of this disease in a general medical ward, a special ward of 18 beds was opened with the kind permission of the Chief Medical Officer, Penang A suitable sink was provided for the washing of all stools

It is often difficult, and sometimes impossible, to keep the Tamil cooly under observation long enough to determine the result of treatment , he will abscond as soon as he feels better For this reason only such cases as were willing to be treated systematically were sent to this ward

Routine Treatment—No food after 4 p m of day preceding administration of chenopodium , water *ad libitum*

At 8 p m 1 oz of Magnesium sulphate in water

At 7 a m a single dose of 2 c c of oil of chenopodium in two gelatine capsules,

At 9 a.m 1 oz of Magnesium sulphate in water

As soon as the oil of chenopodium is administered the patient is urged to lie down quietly, preferably on his right side One or two cupfuls of hot water are given to him to drink slowly This appears to further the action of the Magnesium sulphate when it is given

No food is given to the patient this day until his bowels have been well opened After this has happened, milk only or tea is given, the idea being to leave as little residue in the stools as possible

Any patient showing signs of collapse after chenopodium, is immediately given 1½ c c of Pituitarin intramuscularly If necessary this is repeated in two hours

All stools are collected in separate receptacles and washed in a sink This is done by putting the stools in a fine-meshed sieve in the sink and letting water run gently over the stools until the fæcal matter is washed away The residue is then placed in a large, black photographic tray and the worms easily recognised, picked out, and counted

The daily washing of the stools of each patient is continued until two negative results are obtained—usually about the 4th or 5th day As soon as two negative results are obtained the stools are examined for ova of ankylostoma If ova are present, the chenopodium treatment is repeated on the 10th day after the first treatment

If ova are not present, the patient is transferred to another ward (for convenience sake) and after a few days his stools are again examined for ova As most of the patients who suffer from ankylostomiasis usually have one or more concurrent diseases, it is not a waste of time to keep them for a few days

Of 179 patients treated in this ward from August to December, 1921, only 10 required a second course of treatment , three required a third course and only one required a fourth course

The following figures show the results obtained —

Number of patients treated		179
Of these there were	Chinese	91
Do	Tamils	82
Do	Malays	6
Number discharged as cured, showing no ova of Ankylostoma in stools		101
Number absconding before completion of treatment		77
Number died		1
Total number of days spent by the 179 patients in the ward		1,516
Average stay in Hospital		8 days

Hæmoglobin estimation—

30 per cent. and under	34	patients
35—50 per cent.	64	"
55—65 per cent.	66	"
70 per cent. and upwards	15	"

Even during the short stay in hospital, 52 cases showed marked improvement in their hæmoglobin percentage, an average of 13 per cent In five patients the hæmoglobin diminished in spite of treatment

Number of Worms expelled—In spite of all possible precautions, it is not always possible to recover all the stools , for the patients will use the latrine in preference to a bed-pan, thus the count of worms is certainly too low But 4,439 worms were recovered with an average of 25 per patient The largest number of worms recovered from any one patient was 465, of which 426 were passed during the first 24 hours after the administration of chenopodium

Associated Diseases—

Malaria	35
Ulcers	49
Round worms	26
Scabies	19
Syphilis	11

There was one death in the ward from chronic nephritis, which disease was present before chenopodium was given His hæmoglobin was also under 20 per cent

Conclusions—It seems better to give the oil of chenopodium in capsules There is not then the tendency to vomiting, which occurs when it is given in emulsion , and one can also be sure that the full dose has been taken There can be no doubt as to the efficacy of oil of chenopodium

The question whether to give oil of chenopodium to markedly anæmic, asthenic patients is a difficult one If it is not given their strength does not increase, and their only chance would appear to be withheld The presence of malaria or other ordinary infections does not seem to contraindicate the administration of chenopodium, nor does this drug aggravate chronic nephritis

The fatal case was desperately ill with advanced anæmia and nephritis, and the administration of the oil of chenopodium did not affect him adversely

I desire to express my thanks to the Chief Medical Officer, Penang, and to the Principal Civil Medical Officer, Straits Settlements, for permission to publish these results

A CASE OF CONGENITAL ABSENCE OF THE SPLEEN

BY RAJINDER SINGH GREWAL, L M S (*Singapore*),

Civil Asst Surgn , Meiktila, Burma

THE body of a Burman male, named Kyaw Zit, aged 73 years, who had died from drowning, was brought to the Civil Hospital, Meiktila on the 13th September, 1922, for examination A post-mortem examination was held the next day The body was a muscular one, with a few tattoo marks, but with no signs of injury The thoracic organs were normal On examining the abdomen the organs were found to be normal, with the exception of the spleen, which could not be found Dr Iyer was present at the examination Thinking that the spleen might have been removed by

a previous operation we searched for any scar on the abdominal wall, but found none

Dr T Verma, M B, B Sc, has recently published a case in the *Indian Journal of Medicine* of a girl of 13 years in whom no spleen could be found In Dr Verma's case, however, it is noted that there was enlargement of the pancreas and of the mesenteric lymphatic glands This was not found in our case Green's 'Pathology" does not mention possible absence of the spleen, and Miller also fails to mention it As our patient was 73 years of age we may conclude with Beattie that "the spleen is not an important organ"

Our thanks are due to Captain Aung Tun, B A, M B, Ch B, (Edin), I M S, Civil Surgeon, for permission to publish this case

A CASE OF TETANUS

By H R WADHWANI, M B, B S,

Jacobabad, Sind

People in Upper Sind are generally accustomed to mix clay with water and common salt and apply it to boils and abscesses, in order that they may burst open, very often they repeat the process even after the abscess has opened The tetanus case which came under my notice and still remains under my treatment had its origin in this peculiar use of earth It may, however, be noticed that in spite of the frequent use of earth for abscesses, cases of tetanus are very rarely met with in the northern parts of the province of Sind The following is a brief description of the case —

V P, aged nine years, was admitted as an indoor patient to my hospital on 16th September, 1922

Condition on admission —Lock-jaw complete, even fluids could be swallowed only with difficulty All the muscles of the body in a fixed and rigid condition particularly the muscles of the neck, face, back and abdomen A grin-like appearance (*risus sardonicus*) was present The upper extremities were not much affected Complained of very severe pain on the slightest movement of the body or limbs Convulsions almost every half hour Temperature 101° Passed urine twice or thrice a day, no motion for the last 10 days

Past History —About two months ago he had an abscess on the chest A quack advised his father to apply clay mixed with water and common salt to the abscess until it burst open, and even for some time afterwards This was done and the abscess healed up after about a month without any apparent complications Five or six days afterwards difficulty in opening the mouth was noticed The neck also became fixed and could not be turned After a day or two lock-jaw was complete, and all the other muscles of the body were more or less affected Convulsions appeared very frequently During every 24 hours two or three extremely severe spasms were noticed The relations did not consult any doctor, but thought the patient to be haunted by a ghost So they brought a ghost remover, who gave him a few hard slaps on the face But the condition became worse and cramp-like pains and very severe spasms were noticed immediately after this treatment Even then they thought him to be haunted by a ghost So for about ten days more they did not put him under anybody's treatment His condition became daily worse After twenty-two days' duration of the disease he was admitted as an indoor patient to my hospital

Progress and treatment —I at once put him on to large doses of Chloral and Pot Bromide and subcutaneous injections of carbolic acid (2 per cent) and a milk diet In the meantime I ordered tetanus antitoxin, which was not locally available

2nd day after admission —The number of convulsions was reduced from 13 or 14 to only 2 or 3 per 24 hours Same mixture and injections continued Enema given,—several dry and hard scybala came out Temperature 100°

3rd day —No convulsions Could open the mouth slightly and protrude the tongue, which was very thickly coated No motion Urine normal Same mixture and injections continued

4th day —Got P D & Co's tetanus antitoxin and injected 1 500 units intramuscularly Same mixture continued No convulsions Could extend his leg without pain Could open the mouth still further Pot Permanganas gargle Soap water enema given and a good motion was passed

5th day —Same treatment as on 4th day Further progress was noticed No motion

6th day —Same treatment continued No convulsions Could sit with the support of pillows without any pain Could more than half open the mouth Very hungry Asked for solid food, but nothing except milk was allowed, although in very liberal quantity No motion Calomel gr ii at bed-time

7th day —Same treatment continued Condition much better Passed one motion in the morning Very hungry Milk diet continued Tongue very slightly coated Can sit without support of pillows

There was no fever after the 2nd day

The patient is still under treatment and progressing very favourably

NOTES ON A CASE OF CATARACT IN A CHILD, FOLLOWING LIGHTNING STROKE

By Lieut-Col W V COPPINGER, D S O, I M S

The patient a small boy, apparently in good general health, was seen by me on 13th September, 1922, at the Out-door Dispensary, Eye Infirmary, Medical College Hospital His history was as follows —K S, European male,

NOTES ON A CASE OF CATARACT IN A CHILD, FOLLOWING LIGHTNING STROKE

By Lieut-Col W V COPPINGER, D S O, I M S



The appearance of the Right Eye 4 months after injury

aged 19 months, at the age of 2 months suffered from measles, followed by bowel troubles, from which he slowly recovered on treatment with Ol Morrhuæ and Iron, but was in good health from October, 1921 till May 21st, 1922, when during a severe thunder-storm at Ondal, where he was living, he was struck by lightning while sitting on his *ayah's* knee, in the hall of a one-storied house under, or near, a hanging lamp The *ayah* was killed immediately, the whole of her right side being burned, but the child who was apparently sitting on her left knee escaped, being flung on the floor unconscious The hair over his right eyebrow, and the skin of his face, especially that of his right eyelid was slightly burned

He remained unconscious for several hours, and could not open his right eye for three days owing to inflammation, when on examination no injury to the cornea or eyeball could be detected in either eye by the doctor in charge. He treated the eyes first with boric compresses, and later, when they could be opened, first with atropine ointment for a few days, and then with boro-vaseline The left eye healed rapidly, but the right eye took nearly a month to recover, when it appeared quite well About the beginning of August, two-and-a-half months after the injury, the mother noticed a whitish spot in the child's right eye, and this gradually increased until he was brought to hospital

On examination with a fully dilated pupil, the lower half of the lens was seen to be opaque the area of maximum opacity being lentil-shaped, with the convexity downwards, and the opacity involving the lens substance From this a faint granular haze spread through the lens, becoming less definite as it spread from the main patch, and appearing to me to indicate the probable extension of the opacity to the whole lens The eye otherwise appeared quite healthy and there were no scars of burns on the lids or face, but the burnt ends of hair over the brow were still clearly visible and are indicated in the accompanying picture

The left eye appeared quite healthy

Cases of injury of this kind, though not common, have been reported very fully and in fair number in the past both as a result of lightning, and of injury by high-tension currents (varying from 30,000 to 500 volts),—the latter being the more common in recent years

Two types of lightning cataract are recognised—the first in which the cataract is noticed very shortly after the injury, which is regarded as due to a concussion effect, with minute tears of the lens capsule, and corresponding to the ordinary traumatic cataract the other, to which the present case belongs, in which the cataract does not develop for a period varying from one to eighteen months, and which may be associated with conditions as various as iritis, iridocyclitis, various ocular paralyses, retinal hæmorrhage and detachments, and is characteristic of injury by high-tension currents as well as lightning

The typical change in the lens in these cases is the development of a fine granular opacity, as shown by Hess in animal experiments to be due to the gradual death of the cortical lental cells after electric shock, with disintegration and vacuolation of the peripheral layers as in an ordinary senile cataract This however does not always occur, cases have been recorded in which the opacity has remained stationary or has even receded, but I fear this is not likely to occur in this case, though the absence of trouble in the left eye up-to-date is unusual and constitutes a hopeful symptom An interesting feature of the case is the association of the band-like opacity of the lower part of the lens with the fairly severe burning of that side of the face, the injury corresponding to the exposed portion of the cornea with the eye half open, suggesting that the heat of the discharge may have had something to do with the degeneration Very minute examination of the lens could not be made owing to the difficulty of close examination of a young and nervous child

I hope to see more of the case, and to trace its progress, and must thank Dr H M Mukerjee of Ondal for his help in obtaining the history, and the artist of the School of Tropical Medicine for the picture of the condition

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NOTES ON SOME CASES TREATED WITH ELECTROLYTIC CHLOROGEN (E C) AT THE PUSA HOSPITAL

By DR. MICHAEL,

Medical Officer, Pusa

Case 1—Rajia, Hindu male, aged 25, cultivator Admitted 17th April, 1921 Discharged 10th June, 1921

Ulcers and Sinuses—On admission, the patient had unhealthy looking wounds with mucopurulent discharge at the elbow and shoulder of the left arm, which he stated he had suffered from for six months There was some surrounding infiltration and œdema Temperature elevated General health poor On 20th April, 1921, under a general anæsthetic, the sinuses running deeply along the flexor muscles of the forearm were slit up and scraped and irrigated with a 50 per cent solution of E C and packed with sterile gauze wrung out of the same The following day when the plugs were removed the wounds presented a healthy appearance and the temperature was normal The strength of E C solution was gradually reduced every day and within three weeks from date of operation the wounds had practically healed He was kept in hospital till his general health had returned to normal

Case 2—Dhara Mahto, Hindu male, aged 58, cultivator Admitted 8th September, 1921 Discharged 6th October, 1921

Carbuncle—Situated in the middle line of the back, dorsal region tense, brawny infiltrating mass, 4" × 4", very painful and tender Temperature 101° F Tension was relieved by means of a deep-seated crucial incision but no attempt was made to express the sloughs which were very tenacious Gauze wrung out of pure E C was packed into the interstices of the carbuncle, covered with dry gauze, lint and wool and bandaged The patient complained of severe burning pain in the wound, which however subsided to a great extent after two hours The temperature rose the same evening a couple of degrees, but the patient made no complaint A bromide-and-morphia draught at night helped him to sleep and the following morning the temperature was down to 100° The plugs were removed, most of the sloughs came away with little difficulty and there was a practically total absence of the disagreeable odour that is so characteristic of this condition The skin around the wound had become slightly blistered but this gave no trouble to the patient and cleared up as the solution was daily reduced in strength At the second dressing, the remaining sloughs were removed, and except for some pus that was present in the perimeter, the carbuncle presented a remarkably healthy appearance and the temperature had dropped to normal (48 hours) Within a fortnight the wounds had healed Convalescence was slightly delayed owing to an attack of malaria while in hospital

Case 3—Chatthoo, aged 20, Hindu male, groom Admitted 8th July 1921 Discharged 3rd September, 1921

Inflammation of Connective Tissue (leg), result of injury—On admission, the patient was feverish There was an inflamed, unhealthy abrasion on the skin The whole leg was greatly swollen and œdematous and very painful The leg was kept at rest on a back splint and treated with frequent hot fomentations On the 11th July, 1921 as there was no improvement and fever had increased, the patient was chloroformed and the wound explored It was found to lead into tracks running in several directions down the leg as far as the heel along the superficial and deep tissues Free incisions were made into the most dependent parts and the cavities thoroughly irrigated with E C 50 per cent and gauze drains inserted

12*th July*, 1921—Temperature less—much reduction in swelling of leg Wounds draining freely Irrigations and dressing with E C repeated Internally, Potass chlor with Tinct Cinch Co

17*th July*, 1921—Very little discharge from wounds now,—fever almost gone

24*th July*, 1921—Wounds very healthy and free from pain, but patient had an attack of fever (malaria)

27*th July*, 1921—No fever—wounds all but healed

2*nd August*, 1921—Wounds in the leg have closed up A small pocket of pus near the lowermost wound was evacuated and cleaned out with E C

15*th August*, 1921—Leg practically normal again Convalescence delayed owing to malaria

Case 4—Kamruddin, aged 35 Mahomedan male, police constable Admitted 29th July, 1921 Discharged 14th August, 1921

Suppurative Adenitis (femoral)—On admission the patient had a very large abscess in the femoral region (left thigh) of several days' duration The original cause was not traceable There was however a history of venereal disease

30*th July*, 1921—Under a general anæsthetic, the tumour was incised and evacuated of a large quantity of pus and broken down glands The wound was irrigated with 50 per cent E C and packed with gauze soaked in the same

1*st August*, 1921—Discharging freely—swelling gone down—no fever

14*th August*, 1921—Almost entirely healed The wound was washed daily in E C and packed with E C and gauze till it became dry It is quite possible that this was a case of bubo due to a recent venereal sore which had healed before the patient came into hospital

Case 5—Lilabati, aged 25, Hindu female Admitted 31st July, 1921 Discharged 15th October, 1921

Caries of bone (syphilitic)—On admission there was a heart-shaped, depressed, sluggish-looking ulcer about the size of a 5 shilling piece in the centre of the forehead The duration was stated to be one year and there was a specific history Under general anæsthesia, the ulcer was laid bare, the bone surface was found denuded of periosteum, fragments of necrosed bone were removed and the bone scraped The wound which was dressed daily with a strong solution of E C had almost healed up within a month On her discharge from the hospital, 2½ months from the date of admission, there was a depressed scar where the old ulcer had been

Case 6—Mohd Taslim, aged 18, Mahomedan male, zamindar Admitted 23rd June, 1921 Discharged 19th July, 1921

Chronic Abscess (tubercular)—Stated on admission to have been of six weeks' duration Situated on the back, external to and below the left scapula On the 24th June under chloroform an exploratory puncture was made in what appeared to be the most dependent part of the abscess and pus was found The deep structures below the left scapula were dissected out and an abscess cavity running upwards behind the scapula to the upper border of that bone was evacuated and irrigated with E C and distilled water, equal parts, and packed lightly with gauze The following day the plugs were removed and the treatment repeated

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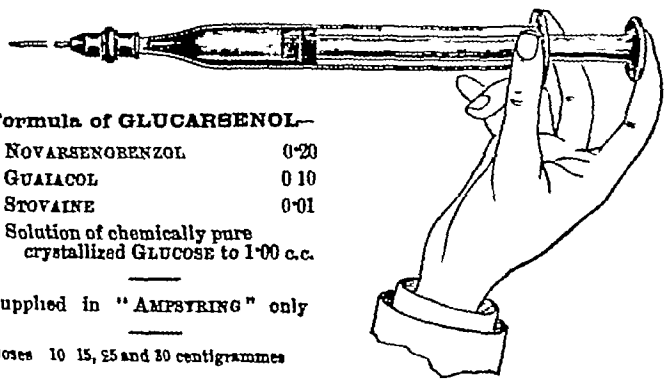
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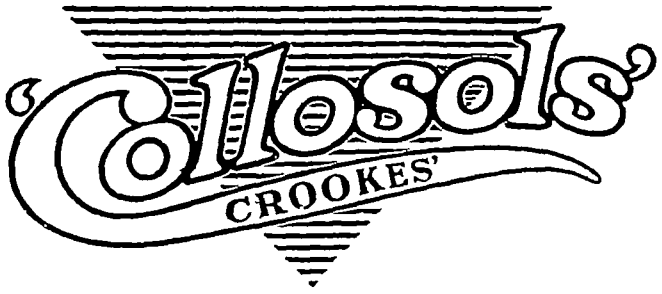
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27th June, 1921 —Patient is generally better No fever and discharge from wound sanioserous in character E C irrigations and packing continued daily

9th July, 1921 —The wound is quite healthy Granulations are filling up rapidly General health greatly improved

17th July, 1921 —There is now no discharge from the wound Packed with B I P and sutured

19th July, 1921 —Discharged to attend outpatient Department under observation (*N B* — The wound gave no further trouble)

Case 7 —Girija Rai, aged 50, Hindu male, cultivator Admitted 13th November, 1921 Discharged 22nd December, 1921

Carbuncle (back), duration 15 days —In this case no incision was made A compress of several layers of sterile gauze, wrung out of pure E C was applied to the carbuncle area and kept on for 24 hours On removing it the following day, the sloughs had softened and some were removed easily with forceps This treatment was repeated daily until the 6th day when all sloughs had come away and the base of the carbuncle presented a red, healthy appearance On the 10th day all discharge had stopped and granulations had formed By the 21st day the wound had completely closed up

Case 8 —Ram Bilas, aged 16, Hindu male, cultivator Admitted 29th October, 1921 Discharged 22nd December, 1921

Cellulitis (hand) —The right hand on admission was in an extremely septic condition (This was a case of recovered cobra-bite without antivenene, which I reported in the *Indian Medical Gazette* The necrotic state of the deeper structures was the result of infiltration of the bitten finger and the surrounding swollen area with gold chloride solution)

The hand was placed three times a day in a hot bath of E C 1 in 10, and dressed after immersion with a solution of the same strength The result was really striking, and except for the loss of the bitten finger which had to be disarticulated at the metacarpo-phalangeal joint, sepsis cleared up and the patient left hospital quite well The condition of the hand was so bad when the patient was admitted that I was in great doubt as to whether or not to amputate at once

Case 9 —Banarasi Hindu male, aged 10, farm labourer

Cutaneous myiasis —On admission there was a gaping wound running almost the whole length of the upper and middle thirds of the left leg Numerous maggots could be seen actively moving about in the wound, and there was an extremely foul-smelling sanguineous discharge Whilst removing the larvæ with forceps, a considerable portion of the tibia came away, the greater portion of which was denuded of periosteum and devoid of cancellous tissue There was fever The wound after this was treated twice daily with strong solutions of E C while for several days larvæ were being removed On the 7th day all the larvæ had come away and the wound assumed a healthy appearance, but it was necessary to scrape the bone, with the patient under chloroform and remove some sequestra that remained On his discharge from hospital he was in excellent health

Case 10 —Suraj, aged 7, Hindu, male child, Admitted 3rd April, 1922 (Still in hospital)

Cancrum oris —On admission, the patient's condition was very grave Cancrum oris of the soft palate had set in and it was for this condition really that the boy had been brought to hospital No time was lost in commencing treatment with antimony intravenously though in his extremely debilitated condition the doses had of necessity to be greatly reduced The foul ulcer of the palate was swabbed as frequently as possible and with great care daily with pure E C till the sloughs came away and then the little patient, who by this time had regained some strength, was made to gargle with E C thrice daily Within 10 days the wound in the soft palate had healed

NOTICES.

FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE—5TH CONGRESS

At the Fourth Congress of the Far Eastern Association of Tropical Medicine, which was held at Weltevreden, Java in August, 1921, a proposal was made on behalf of the Governments of the Straits Settlements and Federated Malay States by their delegate Dr A E Horn, that the next Congress of the Association be held in Malaya The laws of the Association provide that the meetings shall be held every two years, and as the proposal was accepted the Congress will meet in Malaya in 1923

Dr A E Horn was chosen President for the forthcoming session Drs A L Hoops and R Dowden were elected as Vice-Presidents for the Straits Settlements and Federated Malay States respectively, and Dr Scharff as Honorary Secretary for Malaya On the 21st April 1922, a meeting was held to elect committees for the organisation of the Congress Subsequently other meetings were held, and definite schemes were prepared for the management of the Congress It has been decided to hold the meeting from 3rd to 17th, September, 1923 The first week of this period will be devoted to scientific discussions, and the following week to excursions to points of medical and sanitary interest throughout Malaya.

The Governments of the Straits Settlements and Federated Malay States have recognised the important functions of this Association, and are contributing a considerable sum towards expenses

The object of this Association is to promote the science and art of tropical medicine in the Far East. For this purpose the Association endeavours to unite into one compact organisation the medical profession of the Far East, for the growth and diffusion of medical knowledge, to promote friendly international intercourse among physicians, to elevate the standard of medical education, to enlighten and direct public opinion in regard to the problems of hygiene, to form habits which may conduce to the prevention of disease

among the native population, and to present to the world the results of such scientific observations

The membership of this Association consists of the members of all duly constituted, regularly organised medical societies within the field of this organisation, and all medical officials in the civil, military, naval or other organised services of Governments within their territories

It is requested that those who wish to submit papers will communicate with the Honorary Secretary as soon as possible.

INDIAN SCIENCE CONGRESS

To be held at Lucknow

From January 8th to January 13, 1923

MEDICAL RESEARCH SECTION

THE President of the Section wishes to invite the attention of Members who propose to attend the Medical Research Section, to the following points which may be of use to them in the selection of subjects for papers

I—*Types of papers desired*

(1) Announcing in general terms, with no unnecessary detail of description and without complex graphs and lists of figures, any new work performed by the author in any line which has a direct bearing on the advance of medical science and the prevention or treatment of disease.

(2) Describing, illustrating and demonstrating new methods and technique

(3) Briefly summarising present knowledge and indicating promising lines of advance

(4) Opening up a discussion on important current medical problems about which there is, or may be, room for divergent opinions

(5) Dealing with diseases in animals and plants in so far as they have a bearing on human maladies

II—*Illustrations*

Illustrations add greatly to the interest and comprehensibility of a paper, but they should be simple enough or clear enough to be taken in at a glance Complex diagrams which require close inspection and study divert the attention of the members from the text of the reader Clear lantern slides are about the best form of illustration, and are suitable for photographs, photo-micrographs, graphs and short lists of figures Line diagrams on a large scale, on paper which can be pinned on a screen are also useful

Blackboard sketching or figuring is not recommended

Types of papers not considered suitable

(1) Very detailed and complex, whether in words or figures

(2) Very special and outside the range of knowledge of those likely to be present

(3) Very general, containing nothing new and putting nothing in a new light

(4) Papers on general or clinical medicine, surgery or therapeutics which would be acceptable at a general Medical Congress

III—*Memorandum*

(1) Papers should be written in a style for reading rather than with a view to ultimate publication Minor alterations considered necessary for the latter purpose can be made at a later date

(2) No paper should occupy more than 15 minutes in the reading Members are particularly requested to observe this rule, which is made in their own interest and they should see beforehand by actual trial that their papers can be read, without any undue hurry, within the time allotted

(3) Discussion will be confined within the following limits —

(*a*) the production of additional evidence in favour of statements made or suggestion of means to obtain it,

(*b*) the production of additional evidence throwing doubt on or controverting the statements made,

(*c*) the questioning of the soundness of the methods used to obtain the results presented, and the suggestion of alternative or sounder methods,

(*d*) asking for the elucidation by the author of obscure passages,

(*e*) supporting or questioning the validity of arguments used,

(*f*) supporting or questioning the conclusions drawn from the evidence presented,

(*g*) supplying possible answers to questions raised,

(*h*) raising questions relevant to the subject, but not suggested by the author,

(*i*) the presentation of a rival hypothesis

Finally the author of the paper will be given an opportunity of answering all criticisms and summarizing the discussion No other Member may speak more than once except to correct misinterpretation of anything he may have said

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The Ninth Annual Meeting of the Indian Science Congress will be held at Lucknow from 8th January to 13th January 1923

The Medical Research Section of the Congress will then meet for the fourth time

The subscription for membership of the Congress is Rs 5 and should be paid to the Honorary Treasurer, Asiatic Society of Bengal, 1, Park Street, Calcutta, who will send a ticket of entry

Those who propose to be present at the Meeting are requested to communicate as early as possible with the undersigned The Honorary Local Secretaries are Prof P S MacMahon, M B., B SC., United Service Club, Lucknow, and Dr Wali Muhammad, Physics Dept., Lucknow University, to whom all enquiries about accommodation should be addressed, Europeans writing to the former, Indians to the latter

It is essential that notice should be given to the Local Secretaries as early as possible

A notice for the guidance of those who intend to read papers and take part in the discussions is published in the *Indian Journal of Medical Research* and above

All papers should be forwarded to the undersigned before the 20th December, 1922 Each paper should be accompanied by an abstract.

It will not be possible to include in the programme of the Medical Research Section any paper which has not been sent in to the undersigned by the date mentioned

The time allowed for the reading of any paper at the Congress will not exceed 15 minutes

It is to be hoped that the majority of the papers received will fall into groups which will afford opportunity for discussion Definite subjects for discussion will be arranged later and proposals for these are invited

The undersigned will be glad to receive suggestions from any intending Member regarding any matters connected with the Medical Research Section

HUGH W ACTON,
Major, I M S,
President,
Medical Research Section

SCHOOL OF TROPICAL MEDICINE AND HYGIENE
CALCUTTA, *20th November*, 1922

Indian Medical Gazette.

DECEMBER

THE FIELD FOR RESEARCH IN INDIAN INDIGENOUS DRUGS *

In perhaps no branch of European and American medicine of to-day is more rapid progress being made than in pharmacology The last few years have seen an enormous improvement in methods of standardisation, and above all in methods of exact experimental investigation The rise of biochemistry to the position of a dominant science brings the medical man who would understand the rationale of treatment into a field where the intimate reactions of living tissues to drug solutions is seen to be dependent upon many biological factors upon electric potential, conditions of solubility and ionisation and the like In brief, modern pharmacology of to-day has become an exact and exacting science, calling alike upon the biologist, the expert chemist, the physiologist, and the pharmacist to assist in building up a new science of therapy, dependent upon a rational and experimental basis

Is it necessary to set against this the present position in India ? In the medical schools and colleges of India pharmacology is, as a rule, reduced to materia medica only the dry bones or drier leaves of the subject are taught any medical man is considered competent to teach it practical classes are few and far between the student is still in the dark ages and, although about to be turned out as a practising physician, is taught how to recognise digitalis leaves, but is not given ocular and experimental evidence of how digitalis acts upon the perfused heart Considering how clamant is the appeal of the Indian patient for any form of treatment and how fond is the Indian practitioner of complex and elaborate prescription writing, it is surprising that results are as good as they are

Into this time honoured and lethargic state has recently been introduced a new stimulus The Indian Legislative Assembly, the Provincial Councils and Ministers have taken up the question of the study of Indian indigenous drugs It is a move of which every medical man in the country will approve Indeed there have been many pioneers in such matters during the nineteenth century, both medical and lay John Fleming's 'Catalogue of Medicinal Plants' was published in 1813, and Roxburgh's 'Flora Indica' followed Shaugnassy produced a 'Bengal Pharmacopœia' in 1844, Waring a 'Pharmacopœia of India' in 1868, Mohiuddin Sheriff a 'Supplement to the Pharmacopœia' in 1869, David Hooper a Materia Medica of Madras' about the same date, and Dymock a 'Materia Medica of Western India' in 1883 These works are of value not only as containing much information culled from Ayurvedic and Tibbi sources, but also much personal observation and experience Later, Warden and Hooper carried out chemical analyses of many of the most widely used Indian drugs, and finally the Indian Indigenous Drugs' Committee was appointed, and did much useful work in obtaining authentic specimens of tried remedies, making standardised preparations and encouraging their use in different Government medical institutions throughout the country With the advent of the war, however, this splendid committee passed into a state of suspended animation In the happy future that awaits the country when Provincial and Imperial budgets can again be made to balance, we trust that it will be resuscitated

The time indeed is ripe for a serious consideration of Indian resources in medicinal preparations Handed down from time immemorial by script and word of mouth and used to-day throughout the country by *Kavirajs* and *Hakims* innumerable are a whole host of supposed medicinal remedies Many of them are probably useless Chance, as we all know, usually favours the patient, no matter how inopportune the doctor There can hardly be any well-known Indian plant or herb or shrub which has not acquired a reputation in some disease or other Yet it would be folly to ignore the fact that, buried in this plethora of supposition and fancy, there lie facts worthy of investigation, drugs which are indigenous to the country and which are probably of great value The indigenous practice of medicine in India to-day is, in fact, much in the position of British medicine in the seventeenth century It is still based upon tradition and empiricism yet it also probably contains within it the seeds of future greatness Tropical medicine to-day differs materially and in many directions from the

* From materials kindly supplied by Major R N Chopra, I M S and Dr B N Ghosh Department of Pharmacology, Calcutta School of Tropical Medicine, from a paper read at the Medical Section of the Asiatic Society of Bengal

practice of medicine in the temperate zones its problems, its diseases, its remedies are often different We cannot go back upon the great discoveries of the nineteenth century in medicine the crowd of students clamouring annually for admission to every medical school in the country shews it —yet it would be idle to close our eyes to such elements of value as undoubtedly exist in the indigenous systems and in the indigenous remedies What we look forward to is mutual co-operation the evolution of a type of tropical medical practice containing elements derived from both Western and Indian sources, combining the best of both, adapted to the country's needs

Progress, however, must be based not upon empiricism but upon rationalism and investigation Clinical experience for instance confirms, to some extent, the claim made for *Punarnaba* that it is a useful diuretic But this is not enough The active principles responsible for its therapeutic actions have to be isolated and investigated Its biological and pharmacological actions upon the living tissues have to be experimentally investigated Its minimal effective dose and maximal tolerated dose have to be determined After this comes the question of the best sources of supply, the variations of the plant under different climatic and seasonal conditions, the making of suitable and reliable preparations, the best modes of administration Fresh juices and decoctions of a medicinal plant may be efficacious but for all practical purposes their use is very limited Until a serious pharmacological study is made of the best known and widely used and firmly established of the Indian indigenous remedies the use of them by qualified medical practitioners in this country must, perforce, be very limited

Given the time, the men, the money and the equipment for such accurate experimental investigations, however, there would appear to be three main lines of enquiry awaiting investigation Firstly to what extent can India become self-supporting in her requirements of drugs whose action has already been investigated, and which have been admitted to the official Pharmacopœia ? Here present day conditions are deplorable The valuable tea dust from the Indian tea gardens goes to America, only to be re-imported into this country as caffeine at a cost which severely limits hospital supplies *Atropa belladonna* grows throughout the Himalayan range from Simla to Kashmir, yet our ophthalmic surgeons have to depend on imported atropine *Strychnos nux vomica* grows wild throughout the country, *Datura* is almost everywhere *Hyoscyamus niger* is met with at over 8,000 feet in the Himalayas, *Glycerrhiza glabra* in Sindh and round Peshawar, *Citrullus colocynthis* in the Punjab and North-West Frontier Province, *Digitalis purpurea* in Kashmir, many species of *Aconite* and *Juniper communis* in the temperate Himalayas, and *Urginea indica,* the Indian squill in many parts of the peninsula Such are only a few examples out of many which could be quoted It is true that soil, season and gathering time are all factors of importance, and the proportion of active constituents may depend upon one or all Yet here, surely, are untapped sources of supply, the proper investigation and exploitation of which might help materially towards reducing India's annual drug bill

Secondly, a large number of medicinal plants grow in India which, though not exactly the same as the plants utilised in the official Pharmacopœia, yet have properties and actions closely resembling the imported and very often expensive remedies at present in vogue, and which might supply efficient substitutes for the latter Hitherto little or no attempt has been made to work out their active principles on scientific lines, or even to confirm experimentally the claims made for them Yet many have a considerable reputation Thus *Artemisia maritima* grows in the Himalayas, and is said to be an efficient substitute for the very expensive santonin The corm of *Colchicum luteum* from Kashmir closely resembles the official *C autumnale* in composition The roots of *Gentiana kurroo* from the Himalayas contain the same principles, gentianic acid and pectin, as does the imported European root and might perhaps replace it *Claviceps purpurea* grows on Indian wheat and has properties resembling those of ergot *Coptis teeta* from Assam contains the alkaloid berberine and gives a bitter tonic resembling calumba in its properties *Samadera indica* from Malabar contains bitter principles similar to those of quassia The seeds of *Ipomœa hedeacea* and *I turpethum* contain jalapin and convolvulin and have the same action as the official *I purga* This plant not merely grows wild in many parts of India but is often also cultivated *Mentha arvensis* and *M sylvestris* from the temperate Himalayas yield an

essential oil of good quality similar to the oil of peppermint at present imported in large quantities from China and Japan *Naregamia alata* from Southern and Western India is said to have the properties of ipecacuanha *Withania coagulans* from the Punjab and Sindh has fermentative properties similar to those of rennet *Mylabris chicori* from Northern India is said to be as efficient as cantharides, and at less than one-third of the cost of the latter drug Such are again but a few selected examples from among a very large group But if these such plants were but scientifically investigated, their active ingredients isolated, their percentage composition determined, their action established, and standardised pharmaceutical preparations made, the economic gain to the country would be very great

Thirdly, there is need to investigate such drugs as have an established, although entirely empirical reputation in different diseases Dr Koman of Madras, who has lately made a clinical study of a large number of such drugs states that he believes the following to be of value, but that experimental and pharmacological investigations are very necessary before they can be recommended for medicinal use —*Hydnocarpus wightiana* for leprosy *Colycopteris flori-bunda* as an anthelmintic and laxative *Eclipta prostrata* as a cholagogue *Boerhaavia diffusa* as a diuretic *Alstonia scholaris*, which contains the alkaloid ditamine, as an antiperiodic in malaria, and certain others Other well-known examples which could be quoted are "neem" (*Melia azadirachta*), the properties of which are being investigated by Dr K K Chatterji, *Aegle marmelos* (bel) and *Plantago ovata* (isafgul) in dysentery and many others

The programme for investigation as will be seen, is immeasurable Even the innumerable hospitals of India cannot to-day cope with the plethora of patients, and perhaps scarcely one patient in ten comes under proper medical attention and care Imported and "Europe" drugs are beyond the means of the vast masses of the population Even existing institutions are seriously hampered by the present prices of such universally used drugs as quinine, castor oil and magnesia to say nothing of synthetic and more elaborate compounds Apart from drugs of vegetable origin, the mineral resources of India are probably capable of supplying many medicinal requirements which are to-day imported But the field is so wide that it is hard to visualise it Such investigations demand the co-operation of botanists, of expert chemists, and of teams of workers To some extent a small beginning has been made at the Calcutta School of Tropical Medicine, where a small body of experimental workers are in possession of a specially equipped laboratory for pharmacological investigation Clinical study does not present much difficulty but it is almost worthless without the essential experimental investigation which should accompany it No one institution and no one individual can ever hope to even touch the fringe of the subject Chairs in Pharmacology should be founded in the different medical colleges and facilities given for research work To give a single example of the labour and patience required for such investigations it may be said that it would take an experienced chemist from two to three months to isolate in a pure state and identify the different chemical constituents of a single drug and to determine its active principles It would probably take him another few months to isolate a sufficient quantity of the active principles to make over to the pharmacologist who would again take at least a month to investigate them If the programme is enormous, however, it is none the less important To some extent the question of indigenous Indian drugs has been taken up by several well-known firms in Calcutta, who are to be congratulated on their action in the matter But the issues are so enormous, and of such great economic importance to the country that they call, perhaps, for some central and co-ordinated campaign and plan of action A really efficient Indian Pharmacopœia is not an impossibility but there is no short cut to it it is a matter for the co-operative and combined work of many investigators over many years And—as ever—a not unimportant beginning might be made by improving the teaching of materia medica in India, a subject which is at present, unfortunately, the Cinderella of the medical sciences in this country

THE MALARIAL POSITION IN ASSAM

In view of the vigorous measures taken by the Assam Administration against kala-azar, it is to be deplored that lack of funds prevents similar provincial measures against malaria Much of Assam is intensely malarious, whilst in probably no other part of the globe is there available better clinical material for the study of the etiology of black-water fever. Yet, unlike larger and more

wealthy provinces, Assam has not the benefit of a whole-time malarial officer and staff

Despite this however the *Supplement to the Assam Annual Public Health Report for* 1921 by Lt-Col T C McCombie Young, I M S, Director of Public Health, Assam, is most interesting reading, and constitutes an excellent example of how anti-malarial measures should be carried out In 1914 the Assam-Bengal Railway authorities became alarmed at the great increase of malaria at the junction of Lumding a clearing in the Nambor Forest, housing a population of some 3,000 persons, almost all railway employees and their families A spleen index taken in 1911 gave the very high rate of 89 per cent, whilst the parasite index was 40 per cent, and both B T and M T malarial infections were found The malaria attack rate averaged about 1 8 admissions per head, per annum and in 1919 rose to 2 13 per head, per annum *A listoni* was found breeding freely almost all the year round in the *kutcha* surface drains of the station, whilst larvæ of *A maculatus, A culicifacies,* and *A rossi* were found in the sluggish Heru Langphor stream to the east of the station The railway authorities being prepared to find the money an anti-malarial scheme was drafted in 1915, carried into execution and completed by 1920 The whole surface drainage of the station was made graded and *pucca,* two *dhobi* tanks and the borrow pits in the brick-fields were filled in, a large *bhil* was drained, and the river was treated by earthen dams which held up the water, the head of water thus obtained being treated with crude oil and castor oil and then released to scour all lower reaches periodically The completed scheme cost Rs 1,44,622, but the result has been to reduce the malarial incidence per head of the population per annum to 1 43 in 1920 and 1 01 in 1921 In February, 1922, Colonel McCombie Young and Dr Weldon, the railway medical officer, found a spleen index of only 52 per cent among 83 children examined, and of 36 children resident in the station for less than two years only 10 had palpable spleens

A second example of anti-malarial measures in the same report, but taken on a smaller scale, is that furnished by Pasighat This station is a clearing about a mile in length on the crest of the right bank of the Dihong river at its point of emergence from the Abor Hills The natural drainage is excellent, the river is a rapid torrent, and it was obvious that it was necessary to look outside the cleared area for the source of anopheline carriers The station is occupied by the Assam Rifles and by a Labour Corps In July, when the Assam Rifles' detachments are withdrawn from outlying posts into Pasighat the number of troops in the station rises from about 100 to 200, but the chief incidence of malaria is not in July,—as would be the case did these men bring malaria into the station with them from the outposts,—but in August indicating infections acquired locally Severe outbreaks of malaria occurred in both 1916 and 1917, a preliminary investigation in March 1918 suggested that a stream known as the Mera Lalli, separated from the station clearing by some 1,000 yards of uncleared jungle, was the source of the anopheline carriers, and Assistant Surgeon Birendra Nath Sen Gupta, who was in medical charge of the station, kept all possible breeding grounds under observation for twelve months Of 157 larvæ and adults captured no less than 95 were *A maculatus* In 1918–19 the jungle between the station and the Mera Lalli was cleared, and the stream trained and ditched and regularly treated with larvicide In 1921 the usual prophylactic issue of quinine was abandoned, yet in 1922 Mr O'Callaghan, Political Officer Sadiya Frontier Tract was able to report that the incidence of malaria among the Military Police had dropped in four years from 752 to 198, and among the Coolie Corps from 51 per cent to 30 per cent

Colonel McCombie Young comments on the fact that the malariology of the Eastern Brahmaputra Valley appears to approximate to the Malayan type, *A maculatus* being apparently the chief carrier, whereas in Kamrup and the lower Brahmaputra Valley the anopheline carriers are different Both examples quoted show the success which attends,—not random and indiscriminate anti-mosquito measures,—but measures designed to cope with local conditions and based upon a study of the area concerned All over India to-day there goes on an enormous amount of wasted anti-malarial effort, of routine measures applied by rule of thumb, based upon no study of local conditions and barren of results Colonel McCombie Young's report is an excellent example of how anti-malarial measures should be conducted, and it is depressing to read that, owing to lack of funds, his proposals for a special Assistant Surgeon and staff on anti-malaria duty have been negatived.

Disclaimer.

The printed slip, referring to apparatus for the manufacture of Electrolytic Chlorogen, which was pasted into some copies of the *Indian Medical Gazette* for October 1922, in front of the Editorial, dealing with "E C," was inserted without the knowledge or approval of either the Publishers or Editor of the Journal

Announcement.

From January next the *Indian Medical Gazette* will appear in an enlarged and, we hope, improved form

Hitherto lack of space has been an important factor in limiting the amount of original articles and abstracts of current medical literature, now the enlargement of the *Gazette* by eight pages and the strengthening of the editorial staff have been willingly agreed to by the publishers, who have also recognised the necessity for keeping the price down, and it is hoped that the slight increase in the cost of the *Gazette* which has been necessitated by the enlargement will hardly be noticed by our subscribers

Every effort will be made to maintain the practical tone of the *Gazette* and the needs of the isolated medical practitioner will always be kept well in view It is hoped that he will co-operate by sending in articles embodying experiences which will be of value to his fellow practitioners Brief notes on diagnosis and treatment and hints on hospital administration will be specially welcomed

The price of the *Gazette* from January next will be—

Indian Rs 16 and Foreign Rs 18

Current Topics.

The Record of the Liverpool School of Tropical Medicine

THE University Press of Liverpool has published a volume of some 100 pages giving an account of the history of the school and of its tropical expeditions The splendid record of the Liverpool School cannot be better summarised than in Sir James Cantlie's review of this book, in the number of the *Journal of Tropical Medicine and Hygiene* for the 1st of June 1922 Sir James Cantlie writes —

"There is no brighter story of devotion that can be unfolded when the history of the two great British schools of tropical medicine comes to be set down in the light of bare facts, and the publication of the record of the Liverpool School is timely in its appearance No claim is made by the recorders of this volume for the heroic and unpaid work of the men they mention in these pages The deaths of young and promising men sacrificed to Science and the Empire are stated merely, and a memorial tablet or two are set forth To Sir Rubert Boyce a Memorial tablet states —'In memory of one who served here with an ardour and an energy that knew neither ebb nor repose, but the University he helped to establish, and the School of Tropical Medicine which under his leadership has increased health and lessened suffering in the remotest regions of the world are his true and lasting monument.'"

Another tablet, the Walter Myers Memorial tablet, reads as follows —

'On this tablet the Liverpool School of Tropical Medicine commemorates the untimely loss in his 29th year, of Walter Myers who on a mission of the School amid his researches to overcome the malady died of yellow fever on January 20, 1901 From the service of truth and humanity upon earth in the morning of his manhood he passed to God' In pursuance of the Walter Myers Memorial a lectureship named the Walter Myers Lectureship was established in 1903, of which the first occupant was no other than Major Ross himself, whose name in connection with the Liverpool School was to become famous and familiar and synonymous with the very existence of the School itself Another irreparable loss to the School and to Science was sustained by the death of Dr J Everett Dutton whilst actively engaged on the Congo, along with Dr J L Todd, in the investigation of trypanosomiasis and tick fever Towards the end of 1904 they had reached Stanley Falls, and independently they were able to demonstrate the cause of tick fever in man, a discovery made a few weeks previously by Ross and Milne in the Uganda Protectorate Further, they were able to prove the transference of the disease from man to monkeys by means of a particular species of tick During these investigations both observers contracted the disease The last letter from Dr Dutton was dated February 9 1905, in excellent spirits, yet on the 27th of the same month he was dead of the very disease he was investigating A permanent testimonial in the shape of a Dutton Memorial Chair of Tropical Entomology was established in 1910

The activity of the Liverpool School of Tropical Medicine has since its early days been characterized by scientific expeditions or investigation In all thirty-two special expeditions between the years 1899 and 1913 were sent out, to give detailed accounts of each would be but to reprint the "Historical Record" of what has been so well done by the authors of the work published by the Liverpool University Press This would be an ungracious act, although we should with the greatest pleasure do so if for no other reason than to give world testimony to the high appreciation in which we hold the names of the famous men who have been associated with it

Of these no fewer than ten expeditions were concerned with malaria The first was despatched to Sierra Leone in July, 1899, and the names of the men are worthy of being widely known Naturally, it was led by Major Ronald Ross, CB, FRS, the pioneer of practical malaria studies He was accompanied by Dr H E Annett, Mr E E Austen (of the British Museum), and Dr Van Neck (of Belgium) Four expeditions dealt with yellow fever, and sanitation expeditions, the first initiated in 1901 by Sir Ronald Ross numbered six in all Trypanosomiasis occupied the attention of those engaged in the sixth and tenth expeditions, and sleeping sickness those engaged in the eighteenth and twenty-seventh In fact, there are few diseases specially designated 'tropical' which were not dealt with by the men engaged in these great expeditions to diseased areas in the tropics and sub-tropics, including Greece Khartoum West Indies etc"

The Modern Treatment of Leprosy

By H FOWLER,

China Medical Journal, March 1922, p 115

THIS is a useful paper chiefly by reason of its balanced views The author quotes Dr Heiser of the Rockefeller Foundation who points out that, although the evidence with regard to cure by the ethyl esters of chaulmoogra oil is conflicting, yet this treatment, in the hands of Dean and his co-workers, has certainly yielded better results than any previous treatment The results of placing 5,000 lepers at Hawaii on the Dean treatment should afford final and conclusive evidence as to the real value of the ethyl esters A newspaper cutting from the *New York Times* of December the 15th, 1921 perhaps sums up the present position better than we have seen it put elsewhere —

"Although the treatment of leprosy with the ethyl esters of chaulmoogra oil at the Leprosy Investigation Station of the Public Health Service at Kalihi Hawaii, and at the Territorial Leper Colony at Kalaupapa, has given very encouraging results, nevertheless overoptimistic and extravagant statements which have appeared from unauthorized sources in the public press make it necessary at this time to call attention to the therapeutic status of the ethyl esters of chaulmoogra oil in the treatment of leprosy," says a bulletin of the service

"The ethyl esters of chaulmoogra oil may be regarded as the most valuable therapeutic agent in the treatment of leprosy which has been developed up to the

present time," continues the bulletin They are superior to chaulmoogra oil in that they may be administered practically to all patients, and their use, when injected subcutaneously, is not accompanied by the pain, discomfort or slow absorption and frequent abscess formations attendant on the use of crude chaulmoogra oil

"In properly selected cases, especially in the young and in those who are in the early stages of the disease, the clinical improvement is rapid and striking The results are less favourable in older persons and in cases of long duration At this time we cannot say that the ethyl esters of chaulmoogra oil are a cure for leprosy The cases which have been paroled from the Leprosy Investigation Station at Kalihi and from the Territorial Leper Colony at Kalaupapa are cases which no longer exhibit clinical evidence of leprosy and in which the disease has apparently been arrested Whether these cases of arrested disease constitute permanent cures or not is a question which only the passage of time can answer As in the case of arrested tuberculosis, one would expect a certain percentage of relapses to occur in lepers paroled with the disease in an arrested condition A certain percentage of these relapses do occur Up to the present time, eight per cent of the patients paroled from the two leper institutions in Hawaii mentioned have relapsed and have returned to the institutions for treatment

"Therefore, in regard to the treatment of leprosy with the ethyl esters of chaulmoogra oil, we may say at present that their use has resulted in the apparent cure of the disease in a considerable number of cases, but whether these 'apparent cures' are permanent or not is a matter which requires time to determine The results have, however, been so favourable as to lend a hopeful aspect to the treatment of a disease which has long been regarded as hopeless and to lead us to believe that a therapeutic agent has been developed which surpasses in value anything which has been brought forward up to the present time"

"Milk and the Public Health."

By Dr J W BIGGER

Irish Journal of Medical Science, May 1922, p 102

DR BIGGER, Bacteriologist to the Local Government Board of Ireland in 1920, conducted an enquiry into the bacterial purity of the Dublin milk supply and presented the results of his investigations in a report obtainable at any of His Majesty's stationery offices The latter report will be useful to those engaged in the routine examination of milk, full details of technique and results being given In the paper under consideration Dr Bigger condenses his fuller report, stating shortly and clearly the dangers of a contaminated milk-supply and the sources of contamination The dangers of bovine tuberculosis being contracted from milk are happily less in India than in European countries but other diseases such as streptococcal mastitis, the enteric group of fevers, the gastritis and enteritis of infants (infantile diarrhœa) due to milk infected *viâ* the cow itself or by dirty methods and carriers are perhaps rifer in India than elsewhere Dr Bigger considers that infantile diarrhœa is due to a massive infection with the organisms (and their toxins) of cow's fæces which obtain access to the milk by carelessness and dirt. When we add cholera and dysentery to these the list of diseases thus easily preventable becomes a formidable one Dr Bigger by actual experiment shews how simple and easy it is to prevent the greater part of this gross contamination by the use of soap and water and by careful attention to cleanliness applied to the cans, the milker and the receptacles employed By these simple methods and without any elaborate apparatus he was able to demonstrate the reduction of total bacteria to one-thirtieth of the total under ordinary conditions of milking and to procure absence of fæcal bacilli in 1 c c on nearly every occasion What could not this "elementary cleanliness" achieve in disease prevention if widely practised in India? Dr Bigger draws attention to the great importance of temperature conditions on the keeping qualities and bacterial content of milk Fresh milk has a definite germicidal phase which ordinarily lasts a very short time. If the new milk is immediately brought to 10°C, however, this germicidal phase can be very much prolonged Another point to be remembered is that a milk kept at a high temperature, though initially carefully collected may actually contain many more bacteria than a milk carelessly collected but kept at a lower temperature The protection afforded by the lactic acid group of bacilli is perhaps hardly appreciated After the natural germicidal phase has passed off, all the organisms present grow rapidly at a fairly uniform rate, gradually, however the lactic acid group predominate and the others are killed off by the acid produced—the lactic acid organisms eventually succumbing to their own acidity but not until their competitors, harmless and harmful, have been killed off A sour milk is therefore probably a safe one When milk is boiled or pasteurised, the lactic acid organisms are killed off and if the milk then chances to become infected with disease-producing germs, *e g*, typhoid, these have a clear field and few competitors and can multiply to a dangerous extent Commercial pasteurisation is often more a positive danger than a safeguard This paper should be read by those interested in milk supplies and by those who have to deal with the subject in relation to public bodies

Further Researches on Detoxicated Vaccines.

By DAVID THOMSON, M B, ch B

and

ROBERT THOMSON, M B, ch B

British Medical Journal, 20th May 1922, p 796

THE search for detoxicated vaccines which shall retain full antigenic power, be devoid of toxicity, and yet be capable of administration in massive doses still continues This paper contains a useful contribution to the quest A year ago the maximum dose of detoxicated vaccines was some 20,000 million organisms, now doses of 100,000 million organisms and even of a billion are in sight The authors, rightly considering that such numbers fail to convey accurate meaning, use instead the equivalents in terms of moist wet bacterial volume For many common bacteria a billion organisms are equivalent to one cubic centimetre of semi-solid, moist germs With ordinary vaccines the average dose is from 1|200 000th to 1|5,000th of such mass present day detoxicated vaccines represent about 1|100th of such mass, but doses of 1|10th to 1 c c are future possibilities

Experimenting with hæmolysins produced in the rabbit on injection of sheep's R B Cs the authors find that massive doses can be administered, that the rabbit still responds even when the inoculated dose is pushed to cubic centimetre doses of sheep R B Cs, and that ultimately sera can be produced with hæmolytic action in dilutions of 1 in 20,000 The whole essential in producing such high titre results is to retain antigenic power but to abolish toxins In bacterial suspensions treated with NaOH solution some bacteria are still unaffected and toxins are still present in the injection Filtration through a Chamberland filter however improves the results But the authors hope that mechanical means may be introduced which will efficiently break up all the bacteria present and leave none intact

A Plauson machine for which a claim was made that it could reduce substances to colloid form was tried amongst other apparatus, but yeasts and staphylococci came through unchanged, their very minuteness of size saving them Finally a machine was designed with the aid of Mr Macfie, an engineer, which can give up to 20 million emulsifying cuts a minute Even this machine cannot finally reduce bacteria suspended in water to powder without the aid of chemical substances such as alkalies The addition of very finely ground carborundum powder when emulsifying, however, is remarkable in its effects and the authors' aim, the

production of emulsions which are antigenic but are bacteria-free by mechanical emulsification, seems to be very nearly realized Given such antigens, and noting the fact that rabbits will respond to the immense doses given experimentally, it seems possible that detoxicated vaccines may ultimately be produced by which a detoxicated dose corresponding almost to the total infection present may be given, with maximum and optimum antigenic potency and maximal results

"The Ravings of a Doctor."

We have received from Dr Hari Charan Gupta, Muktagacha, a delightful, but very long letter which we regret that it is impossible to publish from want of space As our correspondent writes under the above title we presume that he does not mean his letter to be taken seriously His chief contention is that the Pharmacopœia is much too voluminous, and he quotes Oliver Wendell Holmes as saying "I firmly believe that if the whole Materia Medica could be sunk to the bottom of the sea, it would be all the better for mankind and all the worse for the sea", also Sir William Osler's remark "He is the best doctor who best knows the worthlessness of drugs" Dr H C. Gupta considers that the medical profession are largely abandoning the Pharmacopœia and are becoming too much "the agents of distinguished druggists in Europe and America', whilst the public take to self-administration of drugs to an alarming degree, and the population of Calcutta has become one of the most highly medicated in the world He believes that there is no evidence that vegetable products cure disease, and would admit only quinine, morphia, strychnine and atropine as being of value Among drugs of mineral origin only iron, arsenic, mercury and sulphur have their uses Antimony he considers to have been found wanting, even in the treatment of kala-azar

Beginning with this (unproved) thesis, our correspondent goes on to evolve a second In ancient times when a patient suffered from what he recognised as a hepatic disorder, he went into the jungles to look for a plant which resembled the liver in shape or appearance. But plant chemistry must obviously be irrelevant to the chemistry of animal metabolism Hence we should look to animal chemistry for the true remedies for disease, and diphtheria antitoxin, thyroid extract and the administration of spleen pulp in kala-azar are quoted as examples In reality "there are few diseases, though countless symptoms" And it is not drugs which cure a disease, but the patient's metabolism which overcomes it. "The ideal hypnotic, the ideal antiseptic and the ideal anæsthetic do not yet exist or, if any general antiseptic is efficient, it is also deadly to the patient's system" Apparently Dr H C Gupta expects to find these ideals in animal metabolic products Whilst we admire our correspondent's originality of views, and admit that much or most of the Pharmacopœia could be abandoned without loss, we fear that his ideal system of remedies still lies in Utopia

The Present Position with Regard to Cancer

The number of the *Medical Press and Circular* for the 5th of April, 1922, is a special issue devoted to the cancer question and summarizes present day knowledge and methods of treatment. Sir *Arbuthnot Lane* emphasizes "the necessary causal relationship between chronic intestinal stasis and all forms of carcinoma other than the cutaneous varieties, which are obviously produced by heat or by some definite mechanical or chemical irritant" Sir *John Bland Sutton* writes on the micro-flora of cancer and points out its importance in causing many of the clinical symptoms and also its influence on the virulence of the growth -"The malignancy of a cancer is often an expression of its septicity" "It is the frequency with which cancer becomes colonized with bacteria that causes its lesions to be mistaken for abscesses When cancer arises in sheltered organs such as the kidney, gall bladder, or the body of the uterus in a nullipara it often presents itself as a solid body In the wall of the stomach or colon it will sometimes attain the size of a fist before causing obstruction, but if it arises near a strait such as the cardiac or pyloric orifice or the cæcal opening it soon becomes abraded, infected and ulcerated, causing obstruction and pain, sometimes setting up signs easily recognised, but at others so subtle as to baffle men of admitted clinical acumen and experience "Prior to operation on carcinoma of the tongue or mouth he advises that the patient should be rendered edentulous, and the gums be allowed to heal" The evidence favours the opinion that cancer is due to a symbiotic micro-parasite and suggests that chronic sepsis renders damaged areas of epithelial surfaces receptive for the germs of cancer" Sir D'Arcy Power writes racily of the "bad old days" at Barts, *circa* 1880, when septic operations on tumours conducted by surgeons clothed in frock coats plastered with dried deposits from previous operations, were followed by the application of bread poultices, and an amazingly low mortality considering the conditions of operation Sir G Lenthal Cheatle deals with certain selected factors in cancer Local irritation is a dominant factor in the etiology of cancer, and even in places where local irritation seems excluded, as in many breast carcinomata local irritation may be caused by dilatation of the ducts and stagnation of the contents of acini Old epithelial tissue is more prone to develop malignancy than is young epithelium. Endocrine secretions are almost certainly of great importance in the etiology, but the role which they play in cancer is little, if at all understood Nerve control may be a factor, in rodent ulcer the growth may often be arrested for some time at the boundary zone of a new nerve area

Dr Lazarus Barlow deals with the results of radium treatment. So far from any finality having been reached with respect to radium treatment we are really only now beginning to properly understand the factors concerned Dividing cells are far more susceptible to radiation than are non-dividing cells Hence radium may have different actions on columnar and squamous epithelia, as the latter contains more numerous dividing cells per unit area Two tubes of radium bromide were taken, and it was found that the total bombardment by a 38 mgm tube for 240 minutes was equal to that by a 92 mgm tube for 108 minutes Yet their actions on columnar and squamous epithelium were found to be entirely different This and many other factors influence the efficacy of radium and explain its varying results Present day tendencies are to pay particular attention to the periphery of the growth and to the region beyond it, and to secure as even an intensity of irradiation throughout the whole mass of the growth as possible. The proper line of treatment to-day consists of the combined efforts of the surgeon and the radiologist. "Most authorities are agreed that an early rodent ulcer, for example, should be treated with radium exclusively, that an operable carcinoma of the breast should be treated mainly by surgery, using radium as an adjunct, that an operable carcinoma of the cervix uteri should be treated mainly by rays, using surgery as an adjunct The view held 20 years ago that the knife is the sole agent by means of which cancer can be treated has passed" Further something may be hoped for from the introduction by Kellock, Chambers and Russ of radio active *antigens* This process consists in removing as large a mass of the growth as possible, mincing and irradiating it, and then returning it to the subcutaneous tissue of the original patient, in the hopes that it will act as an antigen and produce immunity Dr J A Murray briefly summarizes the results of recent experimental animal work The malignant transformation is a positive change in cells previously healthy, it is not due to a failure of control by the body fluids or by adjacent cells The tendency to malignant change varies in different individuals, is hereditary and is probably inborn Tumour transplantation to normal animals leads to some degree of immunity and similar processes set in when normal tissues are removed from one animal to another of the same species, but when tissues are transferred from one

part of the body to another part in the same animal there is little or no resistance shewn Cancer of the skin can be induced in experimental animals, and young animals do not shew more resistance than do old ones, a point suggesting that carcinomata may arise at an earlier age than is usually suspected and long before symptoms ensue There is now a court of appeal where ideas on the nature, causation and treatment of cancer can be tried experimentally on animals in place of tedious, uncertain and uncontrolled experiments on man Dr Shaw-Mackenzie deals with the connection between carcinoma and the lipase content of the body tissues and fluids There is a defect in the lipolytic mechanism in cancer and he suggests the use of sodium oleate injections to stimulate lipolytic activity in the tissues and increase the normal fatty acids In cases of inoperable cancer of the breast local injections of sodium oleate have yielded marked beneficial results in relief of cachexia and pain There is probably much information of value with regard to cancer to be gleaned from a close and detailed study of the lipoid mechanisms of the body in cancer and non-cancer states

Dr R Morton writes on the use of X-rays, and emphasizes the very great value of the new Erlangen technique This technique provides a standard type of homogeneous radiation, the activity of which is known, and its minor variations measurable. "We have a standard dose to work to and know how to give it either to the surface of the skin or to any distance below, without injury The proper dose for any given set of conditions is known —the rule being to give this dose at one sitting and it is not repeated in less than six weeks" The results appear most promising The single, intensive radiation is unaccompanied by any unpleasant reactions, with the exception of a transient post-radiative anæmia "Given a case of a reasonably small localised malignant growth without wide local extension or distant dissemination in a patient who is in good general health, and provided the X-ray technique has been accurately carried out according to the principles laid down by the Erlangen school, that malignant growth will almost certainly disappear" Cases are quoted of cure of cancer of the floor of the mouth, of laryngeal carcinoma, of malignant disease of the pancreas cured by one exposure, and of rectal cancer, œsophageal cancer and mammary cancer losing almost every symptom of malignancy

A survey of the cancer literature of to-day shews that, however slow progress may appear to have been, yet the last decade has seen a very definite improvement in our knowledge of the etiology and treatment of cancer From a position 20 years ago when cancer was thought to be entirely a question of heredity and of "cancer houses"—now an exploded fallacy—, and its treatment exclusively a matter for surgery, we have passed to a position where the combined efforts of the surgeon and the radiologist are steadily improving prognosis in treated cases, where experimental study of the disease is steadily throwing new light on its etiology, where the associated physiological changes in the body are beginning to be better understood, thus opening up new and accessory lines of treatment, and where the outlook is far more hopeful than ever previously

The Treatment of early cases of Cholera with Volatile Oils.

By G O F SEALY,

LIEUT-COLONEL, I M S,

British Medical Journal 10th June 1922, p 918

Colonel Sealy records having met a gentleman with a "certain cure" for cholera It consisted of grated nutmeg in rum and to his surprise acted well in early cases Believing that the benefit was due to the volatile oils in the nutmeg he introduced a "pro-diarrhœa mixture" with the following composition —*28 per cent* of the volatile oils of cajeput, aniseed, and juniper in equal parts tincture of cinnamon 50 per cent and ether alcohol and aromatic sulphuric acid about 22 per cent In cholera he gives 40 minim-doses at half hour intervals and has seen very good results in early cases Whilst late and toxaemic cases require saline infusions the use of such an aromatic oil mixture in early cases has much to recommend itself

The Etiology of Diabetes.

By P J CAMMIDGE, M D,

The Practitioner, June 1922, p 396

Any contribution to the study of diabetes by so distinguished a worker as Dr Cammidge is certain to be of interest He writes that he has lately analyzed the after-results of the Allen treatment in 143 cases investigated some considerable time after treatment and records a *mortality of only 36 per cent* Whilst the Allen treatment is usually the best there is a certain class of diabetic who does not respond to it. Here Dr Cammidge has introduced a test to investigate whether the pancreas is or is not at fault in the individual concerned He estimates the percentages of blood sugar and of total blood carbohydrates separately at different periods after a test breakfast, and terms the difference between them the "difference-value" In a healthy person the blood sugar content starting from about 0 08 to 0 10 per cent fasting, rises to a maximum of about 0 17 to 0 18 per cent two to three hours after the test meal and then again falls The difference value in health does not exceed 0 006 per cent fasting and never exceeds 0 010 per cent after a meal In the partly depancreatised dog, however, matters are different. The blood sugar curve starting at 0 13 per cent rises to 0 19 per cent. and then again falls whilst the difference value curve starting at 0 17 per cent after operation, falls to 0 10 per cent and then again rises We thus get two curves, one for the blood sugar and one for the difference value, and in pancreatic insufficiency the two curves are the inverse of one another On investigating 140 cases of diabetes by these methods it was found that 45 shewed this opposed or pancreatic type of curves, that 48 gave unrelated curves, and that 34 gave curves of concurrent type

The author goes on to suggest the application of this test to differentiate one type of diabetic from another If the curves are of the opposed type the case is one probably associated with pancreatic deficiency and the Allen treatment is indicated and usually beneficial Where the curves are unrelated a hepatic type of diabetes is present, and such cases are cases where acidosis may follow the deprivation of food Here patients often do better on a protein-fat-poor diet relatively rich in carbohydrates especially if the carbohydrates be given as oatmeal or dextrinized starch

Under treatment the opposed, pancreatic type of curve generally changes its character and is converted into a concurrent type, whilst the patient becomes sugar-free If the diet be subsequently raised above the level of tolerance the curve changes back again to the pancreatic type

Differential Centrifugalization. A Method for the Study of Filtrable Viruses, as applied to Vaccinia

By W G MacCALLUM

and

ELLA H OPPENHEIMER,

Jl Amer Med Assoc, 11th Feb 1922, p 410

This paper is a record of an ingenious method of studying the virus of vaccinia. Mulford vaccinial lymph, which was studied, is a viscid turbid fluid containing 2 34 per cent of glycerine and with a sp gr of 1 1638 One c c portions were placed in calibrated tubes, and centrifugalized in test-tubes at high speed

for an hour The lymph was then found to have separated into two portions a superficial less turbid layer, and a turbid deposit. On inoculation on the lightly scarified rabbit's cornea the superficial fluid gave rise to vaccinia vesicles the turbid deposit did not.

The top layer from the centrifuged lymph was next diluted with Locke's fluid to a sp gr of 0 99 and again centrifuged The specific virus was now found, by experiment on rabbits, to be in the deposit By repeated trials it was found that the virus floats in a suspending fluid of sp gr 1 14 and sinks in one of sp gr 1 11 so that its own sp gr is about 1 12 or 1 13

Having thus isolated the virus in concentration the authors examined it under dark-ground illumination The field shews myriads of tiny minute granules, very much smaller then streptococci or staphylococci They occur in groups, clusters and chains and are very bright and refractile They are Gram negative stain blue or red with J H Wright's stain and stain fairly deeply with carbol fuchsine Control preparations from the original vaccinal sediment after the first centrifugalization failed to shew these refractile granules

The authors record no control observations with fluids of similar viscosity free from vaccinal virus a point to which attention should perhaps have been paid

Recent Observations on Lupus Erythematosus

By J M H MACLEOD, M D, F R C P,

The Practitioner, April 1922, p 236

THIS is essentially a practical paper The author points out that, so far from any evidence being available that lupus erythematosus has any connection with tuberculosis the collected evidence is all the other way The disease, rather than being one *sui generis*, is a symptom of toxæmic origin Of the factors involved in its causation hereditary predisposition, toxemia from whatever cause—such as streptococcal infection of the tonsils or absorption of intestinal toxins,—and a local factor,—whether a mosquito bite, or local traumatism, are cited. The disease exists in two types The acute cases are characterized by symmetrical disseminated lesions and association with such toxemias as Bright's disease, hepatitis and alcoholism Some prove fatal In the more common chronic discoid cases evidence is accumulating as to the existence of focal sepsis In treatment attention should be paid to diet, and to avoiding all possible causes of local irritation In acute, and often disseminated cases, local applications should be of a soothing and non-irritative character In chronic cases the histological picture is one of an œdematous epidermis with thickening of the stratum corneum and the formation of horny plugs which dip down into the follicles, like a bog covered by apparently sound mossy turf' Here the indications are to remove superficial scaly crusts, to reduce hyperæmia and œdema, and to stimulate the formation of fibrous tissue. The scaliness is best removed by soap spirit solution rubbed on with cotton wool The two most useful methods of reducing hyperæmia and promoting cicatrisation are, freezing with solid carbon-dioxide snow or ionisation with zinc sulphate, (possibly the local application of red lotion" might prove a substitute where such methods are not available) The results from both radium and X-rays have been disappointing

How long does a Mosquito retain Malarial Parasites ?

By BRUCE MAYNE,

Public Health Reports, U S A, May 5th, 1922, p 1059

THE author records experiments with *Anopheles punctipennis, A crucians,* and *A quadrimaculatus* The longest period of survival of an uninfected anopheles, fed on dates and water in the laboratory, proved to be 231 days Of a lot of 85 *A punctipennis* the average life in the laboratory without blood was 90 4 days and 8 of them lived to a period of from 175 to 203 days A feed of blood prior to placing the insects on a fruit diet was found to increase the longevity by about ten days

After feeding *A punctipennis* on malarial bloods containing *P falciparum* crescents the mosquitoes were first kept for six days at room temperature 59° to 83° F and then kept in a container at from 44° to 78° F for the rest of the experiment Sporozoites were found in the salivary glands of five specimens at 68, 70, 71, 83 and 92 days respectively On human experiment a mosquito infected 55 days previously transmitted the infection to man At 61, 66 and 67 days interval however, although—as previously seen—sporozoites may still be found in the salivary glands, experimental transmission to man was not obtained

The author's experiments would have more value if wet-bulb temperatures had been recorded, and he seems not to know of the work of Hodgson and King in connection with this subject The question of hibernation is also not touched upon

The Treatment of Internal Hæmorrhoids by Injection

By A S MORLEY, F R C S,

The Practitioner June 1922, p 403

MR ARTHUR MORLEY writes vigorously in favour of the injection treatment of internal hæmorrhoids in preference to operation Analysing some 3,000 cases which he has treated by injection he writes that the average number of injections per case is four but that the immediate relief is the most prominent feature of the method Of complications pain is recorded in some dozen cases as severe and is due to thrombosis, hæmorrhage has only been seen 6 times sloughing of the mucous membrane may very rarely occur if the injection has been given too superficially a catheter may be needed for a few hours in male patients, whilst sepsis and peri-anal abscess has only been seen once Of 300 patients written to more than three years after the treatment, 83 per cent. reported themselves as free from all symptoms, leaving 17 per cent. in whom some sort of discomfort had recurred

The author contrasts this with the results of open surgical treatment, and gives an analysis of 560 cases as follows —constriction of the anus 58, tags 53, fistula 6, secondary hæmorrhage 5, submucous abscess 2, and 2 deaths from broncho-pneumonia 0 to 16 per cent had severe pain, 30 to 56 per cent. moderate pain The average stay in hospital was 14 days

From the patient's point of view operation means a general anæsthetic, 14 days in a nursing home and probably a change of air afterwards Recurrence is unusual but it does occur in at least one or two per cent of cases There are certain complications after operation and fatalities are not unknown there is a certain amount of pain and in some cases it is very considerable. On the other hand you can be treated by injection which, as a rule, does not involve any absence from work or any pain Complications do occur after injection but they are not nearly as numerous or as frequent as those after operation If a recurrence should take place further injections can be given you will probably have to come here as many as six times but probably not more than four times All your symptoms such as bleeding and prolapse are almost certain to cease at once after the first injection"

"This is a perfectly fair way of stating the case and after all the patient is the person who should be allowed the choice. When medical men suffer from hæmorrhoids they prefer injection to operation they cannot afford to lie up and their experience of operations on their patients makes them dread the first few days after an operation on their own piles and who, from a Cabinet Minister downwards *can* afford to lie up in these times, if there is any way of avoiding it?"

onset, a fair number of babies, breast-fed, will grow indifferent to nursing, stop gaining in weight and grow decidedly anæmic Physical examination in fully 30 per cent of cases, except for the marked anæmia, is negative These cases are often improperly diagnosed Mothers attribute the condition to "teething" Physicians only too often think the breast milk is at fault, and change from breast milk to artificial feeding with dire results A blood film will show malarial parasites, and the administration of quinine gives brilliant results

In infants, periodicity in subjective and objective symptoms is more frequently absent than present Fever is more often remittent, irregularly intermittent or absent, than regularly intermittent as in adults Enlargement of the spleen is absent in fully 30 per cent of cases of malaria in infancy

In India, also, in cases where previously healthy infants cease to thrive, though no very obvious symptoms are presented, a blood examination will in many cases prove of considerable value in diagnosis and lead to correct treatment.

Effect of Tonsillectomy on General Health in 5,000 Children

By ALBERT D KAISER, MD,

Journal of the American Medical Association 17th June 1922, p 1869

TONSILLECTOMY has become a common operation It is generally conceded that after the removal of tonsils, a child should improve, but few reports in the literature deal with end-results In this study an attempt has been made to determine what effect the operation has on a group of so-called average cases, such as present themselves for operation in all communities The operations in the group of children studied were performed by trained laryngologists, and only skilled anæsthetists were employed Fifty thousand school children were given a special examination Only children who had obviously diseased tonsils and obstructive adenoids were recommended for operation The child was safeguarded in every way possible The operations were performed in the morning, and twenty-four hours later the children were sent home in automobiles with instructions to remain in bed for five days From ten to twelve months after operation the same group of children was re-examined to determine their physical status, and to record the presence or absence of symptoms

Analysis of the causes for operation shows that obstructive symptoms or evidence of tonsillar infection existed in 99 per cent of the cases Of 5,000 children re-examined, the greatest improvement occurred in the group that showed evidence before operation of obstruction and infection Considerable improvement in the child's general health was noted in the group that presented evidences of infection from the tonsil, but in which the tonsil presented no marked hypertrophy No marked change was found in the child's general condition in the group operated on for hypertrophy only The high percentage of undernourished children one year after operation (29 per cent), suggests that diseased tonsils are only a small factor in the production of malnutrition

From the figures given it is clear that the operative risk is not great (10,000 children were operated on without a surgical fatality), provided careful preliminary examination is undertaken, that the operations are carried out by specialists, and all reasonable precautions for safety and proper after-care assured

Constipation in Infancy and Childhood

By ERIC PRITCHARD MA, MD, MRCP,

Practitioner July 1922, p 16

THIS article contains a description of the causation and the cure of the common forms of constipation met with in every-day practice The common cause of constipation is undoubtedly the injudicious resort to powerful purgatives, soap and water enemata, or glycerine suppositories, as panic measures to bring about relief of the bowels in cases of temporary suspension of their normal functions in infants and children The preventive treatment of constipation may be summed up in one word "Education," while the curative treatment is summed up in the word "Re-education"

It is quite easy to train the youngest baby to respond to the suggestion of "holding out," or to the reflex stimulation of a soap dish applied to its buttocks, if a little trouble is taken, and a little skill exercised When babies are trained to have only two motions a day "at call," the motions are usually butter-like and definitely formed Temporary constipation is a very small evil in infants, even if it persists for two or three days A little gentle massage of the bowel along the axis of the descending and pelvic colon for a few minutes before "holding out" is a useful and reliable means of encouraging a natural result, without the employment of stronger measures

As a factor in the causation and treatment of constipation, diet is undoubtedly important, but not so important as regularity of habit and suitable training In infants, and especially in breast fed infants, the possibility of starvation must always be taken into account, and excluded or corroborated by a careful estimation of the daily supply of milk. In bottle feeding, excess of fat is a common source of the trouble, the so called *fat-constipation with soapy stools* Excess of protein is also a common cause of constipation in artificial feeding, when cow's milk modifications, or "whole" milk represent the method of feeding Many other faults of balance or deprivation of necessary accessory food factors may indirectly lead to the same result by predisposing to rickets or atony of the intestinal musculature

Combined, therefore, with systematic education and training of the bowel function, there must also be a correction of all existing dietetic faults

Jaundice in the New Born

By SIR HUMPHRY ROLLESTON, KCB, MD, DCL, FRCP,

Practitioner July 1922, p 1

JAUNDICE is both more frequent, and presents more interesting etiological problems, in the new born than in older children The *physiological jaundice of the new born* becomes obvious on the second or third day of life, as the red colour of the skin fades , it seldom persists for more than ten days, and is so symptomless that no treatment is necessary The important practical point about physiological jaundice of the new born is its diagnosis from the grave forms of jaundice in the new born The absence of bile pigment in the urine, its presence in the fæces and the comparatively slight pigmentation of the skin show a resemblance to hæmolytic jaundice Further the recent method of Van den Bergh, namely testing the blood serum by Ehrlich's diazo reagent, has shown that the bilirubin in the blood serum in cases of simple jaundice of the new born, is the same as that present in hæmolytic jaundice, and differs from the bilirubin present in the blood serum of obstructive jaundice.

In grave *familial jaundice*, the disease may be hereditary and is definitely familial, but is less prone to attack the first and second born, than the later children in the families affected It resembles physiological jaundice in the early stages, but the prognosis is very different The history of other cases in the family is at present the surest guide, at any rate until drowsiness becomes well-marked Two rare sequels may be mentioned, a green colour of the teeth, and cerebral diplegia As regards treatment, feeding by the mother's milk should be discontinued, and minute doses of calomel may be given Two cases are mentioned of

recovery of infants with grave familial jaundice after the hypodermic injection of 5 c.c. of horse serum daily until 20 c.c. had been given Both these children were from families in which previous infants had died of similar jaundice.

Congenital obliteration of the bile ducts is accompanied by definitely obstructive and progressive jaundice, hepatic and splenic enlargement, and in the later stages by hæmorrhages The rare condition of syphilitic stenosis of the bile duct presents much the same picture, with in addition a positive Wassermann reaction Uncomplicated congenital syphilis is seldom accompanied by jaundice, unless secondary infection of the liver occurs

Infection spreading from the umbilicus, the skin, or from the intestine in the new born, is an extremely fatal form of septicæmia Jaundice appears later than in the other forms, about the fifth day of life, and is febrile.

Chronic hæmolytic jaundice may be congenital, and at first closely resembles physiological jaundice both in its manifestations and favourable prognosis

Ten Years of Painless Childbirth

By MOSHER

The American Journal of Obstetrics and Gynæcology, 1922 Vol II No 2

THE author concludes that scopolamine is both safe and efficient if properly managed It encourages moulding and rotation of the head It shortens the first stage but somewhat extends the second, and forceps or pituitrin are more likely to be needed There is no increased tendency to p p h , shock and fatigue are diminished, perineal lacerations are reduced, fœtal mortality lessened and lactation is not affected He uses the technique of Gauss throughout.

ANNUAL REPORTS

ANNUAL REPORT OF THE GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS 1921

THIS report is interesting in many ways and consists of personal experience and practical hints and we believe will be of use to those interested in eye work The authors do not consider albuminuria, diabetes, inactive syphilis, or old iritis of doubtful origin a bar to operation provided the eye is "quiet" when seen The remark on the use of Barraquer's apparatus is worthy of note. Sclero-corneal trephining has been made use of for diverse classes of conditions with encouraging results, even for eyes that had been blind for as much as six months There is an excellent review on the causes of keratomalacia and Major Wright believes that the disease is caused by, or at any rate predisposed to by conditions of insufficient diet. There occur notes on several cases of spontaneous dislocation or rupture of Morgagnian cataracts and dislocation of congenitally small lenses with glaucoma A case of malarial optic neuritis is recorded It was brought to hospital for consultation as a case of "Quinine poisoning with Quinine Amblyopia" , and shows how malarial neuritis may be confounded with quinine amblyopia The total amount of quinine administered was—February, 1921—grs 40 , April, May, June,—grs 1,400 , July, August,—grs 1,170 , September—intramuscular injections of grs 180 Notwithstanding this the patient had recurring attacks of malaria with eye trouble. In October quinine bihydrochloride grs 23 were given intravenously The offending parasite was the relapsing B T With disappearance of parasites, whilst still on quinine the patient's eye condition returned to normal and he had no fever Another interesting case is one of subhyaloid hæmorrhages in the macular region in malaria The following case shows a fatal result after intravenous injections of arsenical compounds in syphilis —

Patient A, aged 50 years, admitted into the hospital on 23rd March, 1921, for chronic iridocyclitis B E with occlusion of pupils, a previous history of syphilis and in good general health , was treated with Mist Pot Iodide and Liq Hydrarg internally for a period of two months before he was put on injections of arsenic Four injections were given, one every week, from 25th May to 15th June, 1921, the first two being Neosalvarsan and the later two being Novarsenobillon, all in doses of 0·45 gram He was discharged from the hospital on 20th June, 1921, at his own request with vision slightly improved and in good health Some days later he got *dermatitis exfoliativa* of the feet and legs and a fortnight after he left this hospital he was admitted into the General Hospital suffering from jaundice and spasmodic dyspnœa His symptoms indicated acute yellow atrophy of the liver Leucin was found in the urine, no tyrosin On the ninth day after admission the patient died No autopsy permitted

Serum treatment of trachoma—(Prof Pes normal heterogenous serum)

One case in which both eyes were severely affected was treated with serum after the method of Prof Orlando Pes The Jenner Institute on request kindly sent the serum for trial This is prepared at the Tuscan Serum and Vaccine Institute under the directorship of Prof Sclavo The injections were made subconjunctivally with a fine needle into the retrotarsal fold of the upper lid At the first injection, only ½ c.c was given and at the subsequent eight 1 c.c as advised at intervals of 3 or 4 days The other eye was treated with Cu SO_4 as a control It was noted after the fourth dose that the intensity of reaction increased with each successive injection, the 7th, 8th and 9th produced intense inflammation in half an hour, subsiding in 48 hours with cold pack.

It was found that pannus and corneal infiltration rapidly improved with the serum treatment, while the lid condition remained much the same. In the control eye (with Cu SO_4) the lid was practically smooth but the pannus and corneal infiltration remained in the same condition as before the treatment commenced The procedure was now reversed The control eye was treated with serum and the other with Cu SO_4 It was found by giving 1 min of the serum hypodermically in the arm half an hour before the retrotarsal injection that the reaction was mitigated, without interfering with the efficacy of the treatment Five injections were given at the same intervals as before. The combined treatment with Orlando Pes' serum and copper sulphate gave very promising results The cost, however, is prohibitive for hospital use. Eleven other cases were treated with horse serum (old antidiphtheritic and antitetanic sera) Four discontinued treatment, too early to judge results In the remaining seven, 4 to 7 injections were given in each eye at intervals of 3 to 4 days In none of these cases was the reaction as vigorous as with the serum of Orlando Pes and the improvement in each case seemed to be commensurate with the reaction

In three of these cases there was no appreciable improvement, in four there was definite improvement, in one instance vision being bettered from fingers at 2 metres to 6|18

Forty cases of trachoma in all, adults and children were treated by irrigation with saturated Mag sulph solution, as described by Kirkpatrick (*Brit Jl of Oph*, June, 1920), with slight modifications The treatment is carried out in the following manner An assistant flushes the conjunctival sac several times a day with the solution put up in 2-lb bottles fitted with cork and glass rods after the manner of the familiar laboratory wash-bottle Adult patients in addition use the solution repeatedly throughout the day (at least 5 minutes in every 2 hours) in the egg-cup-shaped eye douche Between the irrigations Ag NO_3 grs 3 to the oz is instilled 2 or 3 times a day Very satisfactory results

Synchisis scintillans—Six cases of this condition were seen in 1921, all in old persons In two, the floating silvery opacities were more like small balls than scales, of the asteroid hyalitis type (Benson), but not congenital

Out-patient department—The chief conditions dealt with in the out-patient department were catarrhal ophthalmia, ulcus serpens, granular ophthalmia, gonorrhœal ophthalmia. The following table gives an idea of the proportions met with —

Catarrhal ophthalmia	3,212	(chiefly Koch-Weeks
Angular conjunctivitis	427	
Trachoma	507	
Macular keratitis	21	
Keratomalacia	80	
Gonorrhœal ophthalmia	40	

By far the greatest amount of labour is expended on those suffering from 'ulcus serpens,' gonorrhœal ophthalmia (adult), trachoma and keratomalacia

Mooren's ulcer—Three cases of Mooren's ulcer were met with during the year One case appeared to be definitely cured, one case improved and left the hospital and the third case progressed to total blindness in spite of all treatment.

Macular keratitis—Twenty-one cases were treated No drug has yet been found really effective. The best results have been obtained by continued treatment with dionine 5 per cent and sub-conjunctival injections of saline at frequent intervals

Intravenous injections of arsenical compounds in syphilis—161 patients were treated, 373 intravenous injections being administered The preparations used were Novarsenobillon and Neosalvarsan, given ordinarily in initial doses of 0 3 grams and later doses of 0 45 grams The routine practice is to give, on an average, a course of four injections of salvarsan and four injections of Hg cream (each of these being given in alternate weeks) In only one case a bad result was noted to follow the injections

We do not as a rule treat syphilitic optic neuritis cases with arsenobenzol compounds until Hg has been freely exhibited We may have reason to change this opinion But energetic treatment with Hg and KI produces satisfactory results in nerve cases for the most part.

Probably those treated as above represent about one-fourth to one-sixth of the total syphilitic cases The actual figure is not available

The total number of Wassermann reactions done for us at the King Institute, Guindy, was 887

Positive 324, Negative 563

Deaths—Nine deaths took place amongst our in-patients during the year from the following cases —

Diabetic coma	1
Enteritis associated with keratomalacia	3
Pituitary tumour (meningitis)	1
Orbital cellulitis (meningitis)	1
Heart failure (renal disease)	1
Tuberculosis, pulmonary	1
Dysentery	1

Reviews.

Essays on Surgical Subjects—By Sir Berkeley Moynihan, K C M G, C B, W B Saunders, Co 1921 253 pp

Sir Berkeley Moynihan's name is well known as one of the most famous of British surgeons of to-day Every surgeon should read these essays Those who have not read them have avoided a duty and denied themselves a pleasure Essays such as these enrich surgical literature and provide the reader in a brief summary with knowledge which is the outcome of many years of patient and painstaking work of the highest order

Taylor's Practice of Medicine 12th (1922) edition—By E P Poulton, M D, M R C P J and A Churchill, London 980 pp with 111 illustrations Price 30*s* net

Sir Frederick Taylor's well-known volume has been the close friend of students and practitioners for 32 years, during which time it has passed through 12 editions The 1922 edition forms a complete, up-to-date and invaluable text-book of general medicine, neither over weighted nor too brief The number of whole-page plates has been increased from 12 to 24, and includes some striking radiograms of renal calculi, pyloric carcinoma, abnormal states of the stomach and œsophagus, pyorrhœa alveolaris, and of cardiac and pulmonary diseases The section on nervous diseases is exceptionally clear and well written, tables of innervation, photographs of diseased spinal cords and well selected photographs of cases being given as illustrations Among new articles in this edition may be mentioned encephalitis lethargica, gas gangrene, X-ray examination of the heart, fractional test meals, gastric and jejunal ulcers, cœliac disease, basal metabolism, psychology and psychopathology, and mental analysis Many chapters and sections have been rewritten, amongst others those on heat stroke, trench fever, cerebro-spinal fever, tetanus, syphilis, tropical diseases, diabetes, and nearly the whole section on diseases of the C N S Throughout the book special attention is paid to the prevention of disease this being usually dealt with for each disease under a special section New charts such as those illustrating fractional test meals, blood sugar tolerance curves, relationship of body weight, height, and body surface and ortho-diagrams of the heart have been introduced The index has been enlarged, cross references introduced and is exceptionally well arranged

"Taylor" represents the very best in medical literature We are reminded of the saying of a celebrated clinical physician that medicine had now become so large a subject that "Taylor" and "Osler" would probably be the last general text-books possible The 12th edition of "Taylor" however is just what both the student and the practitioner want, for both reference and for systematic reading There is much to be said for a complete, standard and authoritative work such as this in preference to more elaborate and over weighted volumes The article on syphilis, for instance, is exceptionally clear, well written, well arranged, contains everything essential and all recent information of importance, but is not over long If "Taylor" is one of the two last great standard English text-books on medicine it is certainly in a very flourishing condition, and the new, 1922 edition at so reasonable a price will be welcomed by the whole profession

INFANT MORTALITY—By HUGH T ASHBY, B A, B C (Camb), M R C P (Lond) Second edition Cambridge Public Health Series Cambridge University Press, pp 224 Price 15*s* net

IN view of the recognition of the increasing importance of the study of public hygiene by doctors, teachers and members of Public Health and Hygiene Committees, the Cambridge University Press have decided to publish a series of volumes dealing with the various subjects connected with Public Health In this series we welcome the appearance of the second edition of a work which has been rightly recognised as a standard on the subject of infant mortality Since the last edition much good work has been accomplished in reducing infant mortality in Great Britain to 80 per 1,000 births in 1920 This figure would have been thought impossible of achievement a few years ago Another good point is that the birth-rate has increased These two factors show that the nation is becoming healthy The reduction in infant mortality expresses a better physical condition of the children and a greater saving of life The outstanding fact of infant mortality during the last few years in Great Britain is the practical suppression of summer diarrhœa The one disquieting fact is the actual increase in maternal mortality during the last two years, and this must be taken seriously in hand The solution of this grave situation is improved midwifery, and there is a need for better training of the professional attendant and for more aseptic midwifery It is pointed out that more ante-natal supervision and treatment will no doubt help to reduce maternal mortality and also the number of still-births which is far too high Infant mortality in the first week of life is too high and is mainly due to ante-natal causes such as premature birth and marasmus

'Child-welfare centres' have increased enormously in the past few years, and if these will keep to their proper function of helping and educating the mothers, much further advantage will be gained

A better and a cleaner milk for infants is badly needed, and should be available for all classes

The popularity of the first edition of this book was recognised as due to the fact that whilst infant mortality was recognised to be a most complex question, the practical side of the question was kept in view throughout In the pages which have been added to the second edition, the same principle is evident The difficulties with which the poor have to contend are described, and the effects of poverty, ignorance, defective housing and the employment of married women fairly discussed The author concludes that of all means which we have of reducing infant mortality, the work done by health visitors is perhaps the most useful. He adds the warning however that health visitors must be suitable persons, and must have had a good practical training, they can then get into touch with mothers and teach them

We can warmly recommend this book to Health Officers and others concerned with public health questions in India

"SUGGESTION" AND COMMON SENSE—By R ALLEN BENNETT, M D, (Lond), M R C P John Wright and Sons, Bristol 1922 105 pp Price 6*s* net

THIS is a fascinating essay, although one which it is a little difficult to follow It recalls a story told of a celebrated London surgeon, when pestered to give his real opinion as to the value of Christian Science "I do not deny the influence of mind over matter," remarked the great man, "but what I deny *in toto* is that a mind which has never studied the matter can exercise any beneficial influence whatever over it"

Dr Bennett, (in a foot-note), explains his real attitude to life He is a pragmatist, "fact, to me, is what I unfeignedly believe" Given this clue we can arrive at some understanding of the views which he sets forth His style is delightful, passage after passage is so whimsical, so true to life, so full of vivacious writing that one is tempted to quote anon,—"as a student I was hypnotised by the importance of the drug Teachers of medicine abuse their opportunities when they fail to mark the difference between the action of medicine in a test-tube and in the human body, had I been warned that the cure rested with the patient, and that only through him might true grace be found, how many delusions and failures might I have avoided As it is hypnotism and tuberculin, Fletcherism and sour milk flit before the mind and pass disappointing or discredited away The psychotherapeutist makes the sub-conscious the field of the most fascinating adventures, he invents a new language to describe its intricacies, its behaviour Will he admit that most of what he tells us is as old as life itself and that it is all purely subjective? Not he! He takes the sub-conscious and clothes it with attributes as with a garment, he digs in it and brings up all he wants to find in short he treats a fragile and elusive figment with a gross and unsatisfying materialism" We gather that Dr Bennett is not quite such a frank pragmatist as he would have us believe But it must be left to our readers to make further acquaintance with his entertaining and pungent style The medical student, he tells us, is threatened with a yet further addition to his burden of lectures and examinations, with psychology as an addition to the curriculum Yet our author hopes that he will survive it, his back is rather broader than that of the proverbial camel, and, after all, he has to put up with so much already

It is difficult, however, amid a maze of entertaining writing, to trace Dr Bennett's main

hypothesis He begins—rightly—with the elemental In evolution we must all go back to and admire not the ant, but the amœba In ultimate origin any cell, whether the uni-cellular (or better non-cellular) protist organsim, or the cell of the gastric mucosa is the equivalent of any other cell If so, the awakening of the gastric glands, for instance, is just as clear an example of instinct or intelligence, as is the series of activities which provides them with material upon which to function Experience and consciousness tend to become identical Organic and inherited tendencies—only—being acquired and transmitted, each individual starts with a clean slate If the peptic cell has acquired such marvellous powers, we need not despair even of the cerebral one Given the baby—and despite the contention of all mothers to the contrary, most babies are very similar—in the course of time it becomes an individual When the thus individualised person is faced with disease he acquires a new set of experiences , pain, discomfort, suffering, disaster What the patient wants is to be cured But in this matter we are all at the same level of ignorance , from the patient's vestibule there open out many chambers , "in one sits the physician, in another the surgeon in a third the psychotherapeutist, in a fourth the healer, the interpreter of dreams, and those who practise neuro-induction , in a fifth the Christian Scientist, the quack, the herbalist and the patent medicine monger,"—a most uncomfortable company "No one can say of any of these that the truth is not in it , only results will show us" , and for these we must look to the patient himself In brief the physician should, and ought to cultivate hope and courage on the part of his patient With quotation of case and precedent Dr Bennett proceeds to emphasize the importance of deliberate suggestion by the physician upon the prognosis for the patient

Following this, however, we are warned that suggestion is no fake substitute for the practice and art of medicine The power of suggestion depends upon the capacity of the patient to establish an outlook of optimism, to make the effort to recover Methods and cases are detailed But there is here nothing ultra-mysterious, nothing ultra-modern, nothing bizarre If an emotion consists in its expression, optimism on the part of the patient is spelt in terms of physical betterment and well-being, in a word in cure We do not need to postulate the influence of either fairies or witches , if disease is a disturbed harmony of the system, recovery is the restoration of the normal balance , and the power of "suggestion" cannot be neglected But it is above all else necessary that a rational view of its use and abuses be held Only thus will both "suggestion" and common sense be reconciled

We trust that we have grasped Dr Bennett's message correctly , but our readers cannot do better than study his most charming and clever essay for themselves

MATERNITY AND INFANT WELFARE IN INDIA A HANDBOOK FOR HEALTH VISITORS, PARENTS, AND OTHERS IN INDIA—By RUTH YOUNG, B SC , M B , ch B Second edition Published by the 'Lady Chelmsford All-India League for Maternity and Child Welfare' Re 1|8

THE appearance of the second edition of this work is timely, in view of the fact that infant welfare work is now spreading throughout the whole of India The training of health visitors is admittedly still in an experimental stage in this country the value therefore of such a work, based on practical experience gained by lecturing to and training health students at the Delhi Health School, is self-evident

The hygiene of pregnancy and the puerperium, infant welfare, and the work of health visitors are successively dealt with In every case the special conditions to be met with in Indian homes, and among Indian women, are emphasised, and appropriate instructions given Throughout the book the endeavour has been made to emphasize the *preventive* aspect of health visitors' work

The summary of work at present being carried on in various parts of India under different local conditions will be of considerable use to health authorities who contemplate starting some similar form of medical relief for women in their own district

We note that the Punjab Government has taken a very good step forward in forming a Midwives' Board on the lines of the Central Midwives' Board in England This Board undertakes the examination of midwives and *dais,* and prescribes rules for their training In the case of indigenous *dais* who are illiterate, special oral examinations are held, after completion of a prescribed course of training at classes held by doctors or by health visitors, and arrangements are made for the subsequent supervision of those *dais* who succeed in obtaining a diploma

The low price at which this book is published should bring it within the reach of every Indian nurse, midwife or health visitor who can read English (For those who are not literate in English, we understand that vernacular translations are available)

It also supplies answers to many questions on which, according to recent questions asked at meetings of the Legislative Councils, Indian administrators are seeking information, with regard to the best way to help Indian mothers and children

The book may also be recommended to educated Indian women who seek information regarding the care of their own, and their children's health

THE STUDENTS GUIDE TO VACCINATION—By W G AITCHISON ROBERTSON, M D , D SC A & C Black, Ltd Soho Square, London, 1922 Price 3*s* 6*d* net

THE author is a sober enthusiast who views with apprehension the apathy with which both a

section of the profession and the public have come to regard vaccination He is concerned that the present generation of students should grow up unmindful of the truth of the protection afforded by vaccination, provided that it is effectively carried out To show the factors underlying the production of "efficient vaccination" would appear to be the main object of the writer A certain area of vesicle production is necessary for absolute protection and the practitioner who does not produce this area, either out of ignorance or in deference to a mother's wishes, is failing in professional duty

The author shows clearly and simply how to produce this area with a minimum of suffering to the child This latter point is of much greater importance than might appear at first sight Most of the opposition to vaccination is probably due more to the inflammatory reaction in and around the vesicles than to the operation itself and much of this inflammation is an unnecessary accompaniment produced either by lymph that is not sterile, by carelessness in the preparation of the arm, unskilful scarification, unsuitable dressings and appliances, or inattention The author shows how to avoid these pitfalls, and so to lessen the prejudices against vaccination

Other matters relating to vaccination, its history, the preparation of lymph, revaccination, and the British laws on the subject, are shortly but succinctly dealt with An interesting little book, useful to senior students and to those concerned in health vaccination work and also to the practitioner who may have got lax in conscience or technique

RADIATIONS FROM SLOW RADIUM—By JOHN B KRAMER, WITH A NOTE ON THEIR THERAPEUTIC VALUE by JOHN HALL-EDWARDS, L R C P D M R & E (Cantab), etc., London Balliere, Tindall and Cox Price 12*s* net

THE greater part of this book is devoted to a consideration of radio-activity in general with special reference to the radio-active preparation of the author, which he calls "Slow Radium" The style is clear and concise The advantages of the new material over pure radium salts for superficial lesions seem sufficiently evident Suggestions are also made for the treatment of cancerous growths, but records of actual cases are not given Dr Hall-Edwards' observations on the therapeutic value of slow radium are of great interest and the results of the treatment in a few cases is given On the whole this is a volume which should prove of great interest to the radiologist and dermatologist alike

FOOD AND HEALTH—By CHANDRA CHAKRABERTY Published by Ram Chandra Chakraberty Calcutta, 1922 Price Re 1|8

THE book, though small, contains much useful information on the subjects of food and health, which will benefit both medical as well as general readers Indian food-stuffs, as expected, have received special attention from the author and the subject has been well treated

Some of the subjects, such as malaria, have been treated too technically, and are likely to prove uninteresting and tiresome to general lay readers The subjects dealt with under the headings of "Defensive glands" and "Principles of Therapeutics" will repay perusal There are some extraneous subjects such as the treatment of opium poisoning, etc., which should not have found place in the book

Some important health problems peculiar to India such as the question of the supply of good drinking water, etc, have received scanty attention from the author The book also contains a few inaccurate statements and errors in printing These we hope to see attended to in the next edition The addition of an alphabetical index and a bibliography would have enhanced the usefulness of the book We have, however, no doubt that the book will be found both interesting and profitable reading

THE HISTORY OF THE SURGERY OF THE BRAIN—By SIR C A BALLANCE K C, M G, etc Published by Macmillan & Co, London Pp 110 Price 10*s* 6*d* net

SIR CHARLES BALLANCE has published his "Vicary Lecture" in book form and well illustrated The book provides most attractive reading, giving an insight into mediæval brain surgery which to most readers will be a revelation Illustrations of ancient trephines are illuminating and attention is drawn to points common to ancient and modern surgery in them, whilst portraits of the owners of such great names as Hippocrates, Celsus, Galen and in later times Pott and Dupuytren bring the fathers of surgery very close to us This book affords most fascinating reading and should find a place in every library

OPHTHALMOLOGY IN GENERAL PRACTICE—By MALCOLM HEPBURN, M D, F R C S Published by Cassell & Co, pp 184 Price 12*s* 6*d* net

THIS book is written by an ophthalmic expert, who in the earlier part of his career engaged in general practice, and who in consequence understands the difficulties of the average practitioner when confronted with a case of eye trouble, and deals with these difficulties in a simple way The first part of the book deals with the ordinary examination of the eye such as can be done with the aid of an ophthalmoscope, an ordinary lamp, and a good small magnifying glass, and points out how much information of a useful kind can be gained by these Urgent cases, drugs in eye diseases, and a few operations are then dealt with, and the greater part of the rest of the book is devoted to the diseases treated regionally The troublesome points in the diagnosis of iritis and glaucoma are well dealt with, but the chapter

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propose during the coming winter to collect as many cases as possible operated on by me in 1912 and 1913 in Allahabad and will publish the results I may not have time to do all the work entailed myself but with the help of a competent medical officer will do so

As regards Colonel Smith's American cases I will leave that subject to himself All that I know is that he told me on his return from America that he performed quite a large number of operations on patients who had been refused operation by other methods on account of various conditions such as fundus disease. His usual principle in these cases is that a little sight is better than none

I think that as regards cataract extraction in the capsule the editorial in the March number of the *American Journal of Ophthalmology* sums the whole position —"Everything depends on the operator himself! There are surgeons and surgeons" I would also include the assistant in the above statement.

Yours, etc.,
F F STROTHER SMITH,
Major, I M S

THE ABORTIVE TREATMENT OF GONORRHŒA

To the Editor of THE INDIAN MEDICAL GAZETTE

SIR,—After reading through the extract from the *Practitioner* on the abortive treatment of gonorrhœa in the December 1921 issue of the *Indian Medical Gazette*, I decided to try it on the next suitable case I got A Parsi, age 24, came to me on the 13th January, 1922, with a history that he had been exposed to infection on the 10th and that the discharge appeared only that morning He gave a history of a previous attack in 1918 He was thoroughly treated at the time. On examination, I found that the discharge was scanty but thick. No microscopical examination could be made He was given two solutions for syringing as given in your extract, but instead of collargol, a solution of protargol 40 grs to an oz, was substituted, and an alkaline mixture by the mouth Diet milk, soda and barley water

15th January Discharge was very profuse and there was severe burning in the urethra, worse on passing urine. Same treatment and diet as before but to the alkaline mixture were added urinary and general sedatives *17th January* The discharge had stopped but the burning was even worse He was told to syringe only with permanganate solution The same mixture and also capsules containing santal oil, copaiba and cubebs were given *19th January* He was all right, except for a slight burning sensation at the time of micturition *From the 21st,* he stopped all medicines and went back to an ordinary diet. Up-to date he has been completely free from any trace of the disease But the treatment was so painful that I had great difficulty in persuading him to remain under treatment I do not know to what extent this treatment is suitable for private practice.—Yours, etc.,

A P PILLAY, O.B.E., M.B., B.S.,
Capt I.M.S

DEOLALI CAMP,
4th June 1922

Service Notes.

GOVT OF INDIA FINANCE DEPT No 1145-C S R, dated 24th November 1921

RATES of subsistence allowance admissible to members of the Indian Civil Service and Military Officers subject to Civil Leave Rules

'It has been brought to notice that, under the rules as they stand such an officer, who draws subsistence allowance at the sterling rate, may sometimes receive more than the sterling equivalent of his half average salary converted at the privileged minimum of 1*s* 6*d* to the rupee This was never contemplated and the Government of India are pleased to rule that no officer on subsistence allowance shall receive more than what he would draw if he were on half average salary"

GOVT OF INDIA FINANCE DEPT No 64-L B, dated 27th January 1922

'FUNDAMENTAL rule 117 empowers the Governor-General in Council to prescribe the rate of contributions payable on account of the pension and leave-salary of Government servants in foreign service

2 The Government of India have accordingly re-examined the existing rates of contribution, as laid down in article 770 of the Civil Service Regulations, and have been driven to the conclusion that those rates are seriously inadequate and that they involve Government in considerable loss A recalculation of the rates, in order to ensure that foreign employers make duly proportionate contributions towards the leave-salary and pensions of Government servants in their employ, has been taken in hand and has been completed so far as officers of the Indian Civil Service are concerned For that service, the Government of India are pleased to fix, under fundamental rule 117, the following rates of contribution —

(1) For pension only—25 per cent of pay actually drawn in foreign service

(2) For leave salary and pension—40 per cent of pay actually drawn in foreign service

These rates will come into force with effect from the date of this letter, and will be leviable in the case of all officers of the Indian Civil Service who are transferred to foreign service on or after the date of receipt of this letter The Local Government will doubtless consider it desirable to bring the change in rates prominently to the notice of all foreign employers who apply for the services of a member of the Indian Civil Service after that date The rates are of course, subject to revision in future should circumstances call for a change.

3 The Government of India are further pleased to fix for the contributions of military officers in foreign employ the rates prescribed above for the Indian Civil Service In the case of military officers, the rates are fixed provisionally, as a temporary measure, pending the completion of certain calculations which are as yet unfinished

4 Revised rates of contribution for other services are still under consideration When they have been calculated, the Government of India propose to bring them into force with effect from the date of this letter It is requested therefore, that all foreign employers who apply for the services of Government servants after the date of receipt of this letter may be informed that they will be required to make good, with retrospective effect the difference between the existing rates of contribution and the rates which may ultimately be fixed by the Government of India under fundamental rule 117"

GOVT OF INDIA FINANCE DEPT No 560-F E, dated 27th March 1922

WITHDRAWAL of General Provident Fund money by officers on leave preparatory to retirement on proportionate pension

"With reference to your letter No Funds-1-3-1973 dated the 1st March 1922 I am directed to say that a subscriber to the General Provident Fund, on leave preparatory to retirement on proportionate pension, may be allowed to withdraw the amount at his credit in the Fund before the actual date of his retirement but not before the Secretary of State has accepted his application for retirement. This, however, is subject to the condition that, should he subsequently change his mind and desire to return to duty at the end of his leave, he will not be allowed to do so unless he repays to the Fund the amount thus withdrawn"

APPOINTMENTS

THE services of Major J L Sen, M.C., M.B., I.M.S are placed temporarily at the disposal of the Government of Assam, with effect from the 13th July 1922

THE services of Major A G Coullie, MB, F.R.C.S, I.M.S, are placed temporarily at the disposal of the Government of Bombay, with effect from the date he assumes charge of his duties

THE services of Lieutenant-Colonel C E Southon, O.B.E, M.B, I.M.S, are placed permanently at the disposal of His Excellency the Commander-in-Chief in India

THE services of Major A M Dick, O.B.E M.B, F.R.C.S, I.M.S, are placed temporarily at the disposal of the Government of the Punjab, with effect from the date on which he assumes charge of his duties

LIEUTENANT-COLONEL L COOK I.M.S made over charge of the Hazaribagh Central Jail to Major R. H Lee, I.M.S, in the forenoon of the 14th September 1922

LIEUTENANT-COLONEL J. MASSON, I.M.S, made over charge of the Bhagalpur Central Jail to Lieutenant-Colonel L Cook, I.M.S in the afternoon of the 19th September 1922

On return from leave Lieutenant-Colonel W W Jeudwine, C.M.G I.M.S resumed charge of the office of Civil Surgeon Jullundur, in the forenoon of the 2nd September 1922, relieving Khan Sahib Mohammad Sharif

THE following appointment is made, with effect from the date specified —

Captain Robert Sweet, D.S.O M.B to be an officiating Officer-in-charge, Medical Store Depôt, with effect from the forenoon of the 6th July 1922

THE services of Captain U J Bourke, I.M.S are placed temporarily at the disposal of the Government of Bihar and Orissa, with effect from the date on which he assumes charge of his duties in the Jail Department of that province

THE services of Major M D Wadia, I.M.S, are placed temporarily at the disposal of the Government of the Punjab for employment in the Jail Department with effect from the date on which he assumes charge of his duties

LIEUTENANT-COLONEL W H KENRICK L.R.C.P, M.R.C.S, D.T.M I.M.S, is reposted to Jubbulpore as Civil Surgeon

MAJOR J M A MACMILLAN M.A M.B ch.B, F.R.C.S, L.R.C.P I.M.S Civil Surgeon, Jubbulpore, is transferred in the same capacity to Hoshangabad

HIS Excellency the Governor in Council is pleased to appoint Major J M A Macmillan, M.A M.B ch.B, F.R.C.S L.R.C.P, I.M.S Civil Surgeon, Hoshangabad to the executive and medical charge of the District Jail Hoshangabad

MAJOR J M A MACMILLAN M.A M.B, ch.B F.R.C.S L.R.C.P, I.M.S, Civil Surgeon Hoshangabad, is appointed to be Civil Surgeon, Pachmarhi, in addition to his own duties, from the date Lieutenant-Colonel R A Lloyd, D.S.O, I.M.S, proceeds on combined leave to the 31st October 1922

MAJOR W D WRIGHT I.M.S Civil Surgeon, on return from military duty, is transferred to Mirzapur

PROMOTION

THE following promotion is made, subject to His Majesty's approval —

Temporary Lieutenant to be Temporary Captain

Percival Arthur Clive Davenport Dated 2nd May 1922

The promotion to the present rank of Major W O Walker, M.B, is ante-dated from the 30th July 1922 to the 30th January 1922

RESIGNATION AND RETENTION OF RANK, ETC.

THE undermentioned officers are permitted, subject to His Majesty's approval to resign their temporary commissions, with effect from the dates specified —

Captain Gopal Das Sen Dated 2nd September 1922
Captain Panna Lal Basu Dated 7th September 1922

THE undermentioned officers are permitted, subject to His Majesty's approval, to resign their temporary commissions, with effect from the dates specified, and to retain the rank of Captain —

Captain Pares Chandra Datta Dated 28th January 1922
Captain Alexander Reginald Lester Dated 9th August 1922
Captain Jotindranath Chowdhury Dated 15th September 1922
Captain Atma Ram Khanna Dated 9th August 1922
Captain Amar Nath Gupta Dated 21st August 1922

THE undermentioned officer is permitted to retain the rank of Major —

Shyam Behari Lal

THE undermentioned officers are permitted to retain the rank of Captain —

Chidambar Vithalrao Salgar
Sukumar Sanyal

Notice.

SCIENTIFIC Articles and Notes of interest to the profession in India are solicited Contributors of Original Articles will receive 25 Reprints gratis, if required

Communications on Editorial Matters, Articles, Letters and Books for Review should be addressed to THE EDITOR, *The Indian Medical Gazette*, c/o Messrs Thacker, Spink & Co, P O Box 54, Calcutta.

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